

THE HOUSEHOLD DOCTOR

Uniform with this volume

THE YOUNG WIFE'S ADVICE BOOK
MODERN MOTHERCRAFT

THE HOUSEHOLD DOCTOR

DESCRIBING THE DIAGNOSIS
AND TREATMENT OF DISEASES,
FIRST AID, AND NURSING

EDITED BY
GEORGE BLACK, M.B., Edin.
AND OTHER EMINENT AUTHORITIES

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The doses of medicine prescribed in these pages are those intended for adults, unless otherwise stated. Doses for children and aged people should be modified accordingly.

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PREFACE TO NEW EDITION

THE main failing in most books that are intended to help those who are unversed in medicine to recognize disease in those early stages when correct diagnosis is so important is that they give so little assistance in the difficult matter of speedily diagnosing the complaint.

To overcome this very real difficulty a special *Diagnosis Table* has been included in the commencement of this new edition—a simple straightforward table which makes it possible for the reader to surmise, from the early symptoms, that the patient is suffering from one of two or three specific ailments. He or she may then turn to the Medical A. B. C., and by a closer study of the detailed symptoms of the probable diseases, will be able definitely to decide on the exact nature of the complaint and treat it accordingly.

The astonishing progress of medical knowledge during recent years—the use of new anæsthetics, D.D.T., Nitrous Oxide and Air, Penicillin, Radium, Benzyl-benzoate and the Sulphonamides, including the famous M & B tablets, for example—has made it necessary that the text of this work should be thoroughly revised, and it has been the publishers' and editors' aim to treat the subjects in accordance with the methods that have proved fully effective and thoroughly reliable.

By treating medical subjects in this popular way we have no intention of superseding the doctor or of making every man believe that he can be his own doctor. We would in fact clearly emphasize the point *that in all cases of serious illness the services of a doctor are indispensable.*

In this book the causes, symptoms, and treatment of all the more common diseases have been detailed and the functions and working of the various organs of the body have been explained and the relations between them demonstrated, so that the reader who has mastered the directions that are

given may render great assistance in cases where immediate help makes all the difference between life and death, but where no skilled medical aid is at hand.

But apart from cases of serious illness, there are numerous lesser ailments, simply and easily curable. To all these particular attention has been paid. Indeed, in regard to simple ailments, such as colds, cuts, bruises, etc., where the services of a doctor are not absolutely necessary, this book should prove invaluable.

Considerable space has been devoted to the subject of Sick Nursing, and the care of the young mother has been fully discussed. The health and management of children have also been dealt with at considerable length. The importance of this subject is clearly apparent when we consider that a considerable proportion of the human race perish in infancy from improper treatment and neglect.

It should be here mentioned that this book, which was originally compiled and edited by GEORGE BLACK, M.B., Edin., has now been revised by several eminent authorities, and the matter and opinions introduced by the latter cannot be said to represent Dr. BLACK's views.

It is our belief that no other work of a similar nature has ever before been arranged in a form which helps to make the diagnosis and care of diseases so easy and effective.

THE EDITORS.

6 CHANCERY LANE,
W.C.2.

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HOW TO USE THE BOOK

To be of real use, the information in a work of reference, and especially in a medical book, must be immediately accessible. With this end in view we have arranged the book as follows:—

1. *A Diagnosis Table* has been added (p. 9). This makes it possible for the reader to surmise, from the nature of the early symptoms, that the patient is suffering from one of two or three specific ailments.

2. The various diseases, their symptoms and treatment, have been arranged alphabetically in a *Medical A. B. C.* (p. 47), so that, having by the use of the diagnosis table eliminated all diseases except two or three, the reader may turn up this *Medical A. B. C.*, and by a closer study of the symptoms of the probable diseases, will be able to decide on the exact nature of the disease and treat it accordingly.

3. In cases of accidents and simple ailments turn, at once, to the *Medical A. B. C.* (p. 47), where the various subjects will be found in alphabetical order.

4. A very full index has been added to further facilitate reference.

DIAGNOSIS TABLE

IT is, in most cases, very difficult for the inexperienced to accurately to diagnose certain complaints, but the following table will make it possible to surmise, by the nature of the early symptoms, that the disease is probably one of two or three specific ailments; the reader may then turn these up in the Medical A. B. C., pages 47-228, and, by a closer study of the symptoms, will be able to decide on the exact nature of the complaint.

To facilitate reference the symptoms have been grouped under headings which designate the most conspicuous signs of the disease, e.g., Fevers and Infectious Diseases, first, followed by Colds, Complications, etc.; Breathing Troubles; Bowel and Stomach Troubles; and Local Inflammation and Pain.

If, therefore, an outstanding symptom is pain in the abdomen, by turning to the heading "*Bowel and Stomach Troubles*" (in the following table) it should be possible to ascertain that the patient is suffering from one of two or three of the diseases there enumerated; a further examination of the symptoms of these complaints in the Medical A. B. C. should then show the specific disease.

It must be remembered that when a sore throat is accompanied by other symptoms, one of the infectious fevers is probably present.

Fevers and Infectious Diseases

Most of the infectious diseases are characterized by (a) Sore throat, (b) Rash, (c) Fever, accompanied by signs of the child being unwell.

Sore Throat

If a patient is ill with sore throat, and has also other symptoms which point to one of the infectious diseases, the following table will be useful in deciding which of the three fevers it may be, viz: Tonsillitis, Scarlet Fever or Diphtheria.

	Tonsillitis.	Scarlet Fever.	Diphtheria.
<i>Colour of Throat</i>	Red or bright red	Brilliant scarlet	Pale or slightly reddened.
<i>Swelling</i> . .	Marked	Slight in mild cases	Slight in mild cases, extreme in severe.
<i>Deposit</i> . . .	Follicular, i.e. in small yellow spots, comes off on swabbing	Uniform yellow, comes off on swabbing	Membranous, creamy, adherent;
<i>Temperature</i> .	High	High	Slight.
<i>Onset</i> . . .	Sudden	Sudden—almost always vomiting	Malaise.
<i>Pain</i> . . .	Painful	Very painful	Almost painless.

Rash and Fever

If a child has a *rash* it may be skin disease only. If it is accompanied by *fever* it is probably an infectious disease. If there is fever, ascertain the day of the disease on which the rash appeared.

First day.—Chicken-pox and German Measles.

Second day.—Scarlet Fever.

Third day.—Small-pox.

Fourth day.—Measles.

Next ascertain if the rash is on the face. If it is on the forehead and round the mouth it cannot be Scarlet Fever. If the eruption is in spots it is either Scarlet Fever, Measles or German Measles. German Measles may be distinguished from Scarlet Fever by the absence of sore throat and from Measles by the rash appearing on the first day and the presence of enlarged glands in the neck and below the ear.

If the eruption is in the form of tiny blisters, we have to distinguish between Chicken-pox and Small-pox.

(a) Examine for vaccination marks—if the child has been well vaccinated it is unlikely to have Small-pox.

(b) In Small-pox the rash appears on the third day after an uncomfortable onset. In Chicken-pox it appears the first day, and the patient is not ill.

(c) In Small-pox all the spots are at the same stage of development; in Chicken-pox there may be commencing tiny blisters and dried scabs all at the same time.

(d) In Small-pox the rash is most marked on the hands and feet; in Chicken-pox on the body.

DIAGNOSIS TABLE

II

Symptoms.	Probable Complaint.
Fevers and Infectious Diseases.	
A number of little red spots appear on the first day and in 24 hours become small blisters surrounded by pink zone. Next day more spots appear and so on for 3 or 4 days. Most abundant on the body. Spots simultaneously in various stages of development, just commencing, tiny blisters and as dried scabs. Little malaise.	Chicken-pox
Slightly reddened sore throat with slight swelling in mild cases, and extreme in severe. There is a membranous, creamy, adherent deposit on the throat. Fever with slight temperature. Enlargement and tenderness of glands under the angle of the jaw. Uvula red and swollen. General malaise at the onset. Little pain.	Diphtheria
Languid and hot, shivery, rise in temperature, quick pulse, loss of appetite and sickness. Eyes become red and watery; membrane lining nose, throat, larynx and trachea red and swollen, and pours forth watery secretion, the person appearing to have a severe cold with running from eyes and nose. Much sneezing, slightly sore throat and dry harsh cough. Convulsions may occur. After 3 or 4 days, minute red pimples appear and rapidly multiply, running together in patches (horseshoe or crescent-shape tendency) on the face, neck and arms and then the body.	Measles
Chilliness, headache, nasal catarrh and general malaise, slight rise in temperature. Rash of pink spots bearing resemblance to measles or scarlet fever (difficult to diagnose in early stages, but symptoms usually milder) appear on the face and chest on first day of fever, and in 24 hours spread all over the body. No sore throat. Enlarged glands in neck and below ear.	Measles, German
<i>In young children</i> —disturbed sleep, a cast or rolling of the eyes, dilated pupils, convulsions and fever. <i>In older people</i> —severe headache, intolerance of light, want of sleep, mental disquietude, constipation and, maybe, unnaturally acute hearing, sudden loss of speech and delirium.	Meningitis (Simple)

Symptoms.

Probable
Complaint.

Fevers and Infectious Diseases

- | | |
|--|--------------------|
| Malaise for day or two, followed by swelling of parotid salivary glands in front and beneath ears. | Mumps |
| Very painful sore throat, which is brilliant scarlet in colour, with a uniform yellow deposit. Stiffness at back of neck, vomiting, shivering, temperature rising to 104° F or 105° F. Pulse quick, tongue white furred, loss of appetite. After 12-20 hours, rash of small scarlet dots on red background appears on sides of neck, upper chest and bends of joints (no rash on forehead or round the mouth). The onset is sudden. | Scarlet Fever |
| Shivering, pain in back, vomiting, thirst, headache, general indisposition. In vaccinated cases more or less scarlet rash mottled over body. Finger pressed on forehead feels like pressing small shot. Rash of small hard pimples on forehead, face and wrists first (third day of fever) turning into pustules and scabs. Rash later on rest of body, but most marked on hands and feet. All spots simultaneously at same stage of development. If well vaccinated small-pox very unlikely. | Small-pox |
| Sore throat, red or bright red in colour, marked swelling of throat with pain and difficulty in swallowing. A deposit of small yellow spots on the throat, these come off on swabbing. Chilly feelings, succeeded by fever and high temperature. Onset sudden, speech nasal, much pain. | Tonsillitis |
| Out of sorts, aching pains in limbs, headache, loss of appetite and chilliness. Sometimes diarrhoea. After some time pulse quickens, skin becomes hot and the tongue is red and dry. End of 1st week, feverish, no appetite, thirst and bowels relaxed, urine scanty and high-coloured. Between 7th and 12th day, eruption of few slightly-raised rose-coloured spots appears on abdomen or chest or over the whole body. These disappear in two or three days and fresh crops appear. Pain experienced and gurgling felt on pressing over right side of abdomen. Middle of 2nd week, delirium, tongue dry, red and glazed, and often cracked. | Typhoid or Enteric |

Symptoms.

Probable
Complaint.

Fevers and Infectious Diseases.

Severe headache, loss of appetite, languor and aching of the limbs, increasing until patient is unable to get about, feels chilly and prostrate, worse at night, skin hot, tongue coated, thirst and sometimes vomiting. Later becomes prostrate on back with dull stupid look, eyes suffused and watery. Dusky flush over face. Eyes half shut, mouth open, tongue dry, black and cracked. Temp. 103° F-104° F.	Typhus
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Colds, Complications, etc.

Ordinary cold, followed by chilliness and aching pains in limbs. Thirsty and feverish, languor and headache, loss of appetite and restlessness. Feeling of soreness behind breast-bone, dry hacking cough and little phlegm. Wheezing sounds in air passages.	Bronchitis
Slight fever, sneezing, running of the nose, watering of the eyes, sometimes cough	Catarrh
Shivering and sneezing, with lassitude, pains in back, loins and limbs, headache, dry state of lips and nostrils, followed by excessive acrid discharge. Hoarseness and sore throat, watery eyes, feverishness, loss of appetite, furred tongue, thirst and quick pulse.	Cold
Appetite capricious and digestive troubles. Chest pains, dry hacking cough, frothy expectoration. Debility, flushing of face, shortness of breath. Countenance pale and hectic patch of red in middle of cheek. Fever at night and tendency to night sweats. Spitting of blood.	Consumption
Chill and shivering alternating with flashes of heat, may be marked rigor. Followed by general lassitude, debility, nervous prostration, soreness and stiffness of limbs, pains in neck, back and loins, headache, frontal oppression, pain in cheekbone and root of nose. Watery and often acrid discharge. Hoarseness, short, frequent cough with slight expectoration and fever.	Influenza
Huskeness, loss of voice, pain on swallowing, cough with little or no expectoration.	Laryngitis

Symptoms.

Probable
Complaint.

Colds, Complications, etc.

Sudden coldness and shivering (in children convulsions may occur). Temperature rises to 104° F, 105° F. Pain in side and loss of appetite, face flushed, rapid breathing, hacking cough, expectoration, tenacious and rusty coloured.

Pneumonia

Common cold or catarrh, accompanied by cough, often ending in vomiting, slight fever, restlessness. Cough becomes more troublesome until characteristic whoop develops. Comes on in paroxysms, and is more frequent at night.

Whooping-cough

Breathing Troubles

Nasal catarrh, snoring during sleep, loud breathing, nasal voice, increasing denseness of intellect and stupid look.

Adenoids

Hurried, oppressed and noisy breathing coming on in paroxysms.

Asthma

Very noisy inspiration causing crowing noise. Choking feeling causes violent efforts to increase air supply.

Croup

Bowel and Stomach Troubles

Pain in lower part of abdomen on right side, nausea and sickness. Tongue furred, fever and constipation.

Appendicitis

Pain over bladder region, in groin and lower part of back, frequent desire to pass water, and great effort to do so. Whitish, ropy mucus deposited in urine, fever.

Bladder
(Inflammation)

Diarrhoea, speedily assuming rice-water character. Vomiting thin colourless fluid. Cramp, abdominal, muscles and legs, etc.

Cholera

Gripping pain in intestines below navel, often accompanied by painful distension of lower bowels, with vomiting, costiveness and spasmodic contraction of muscles of the abdomen.

Colic

Frequent actions of bowels.

Diarrhoea

Pain in left side over heart and palpitation. Faintness, giddiness and choking. Eructation frequent.

Flatulence

DIAGNOSIS TABLE

15

Symptoms.

Probable.
Complaint.

Bowel and Stomach Troubles

Intermittent pain under right ribs, 4-6 inches from middle line. Writhing, sweating, vomiting and feeble pulse.	Gall-stone
Pain after meals. Vomiting coffee-ground matter, black "tarry" matter in stools.	Gastric Ulcer
Pain of a burning kind in pit of stomach, vomiting on eating and drinking, and sometimes hiccough. Pulse small and feeble. Pale and faint, cold extremities and damp skin. Movements of diaphragm cause pain and breathing short.	Gastritis
Severe pain in loin, and running down abdomen into groin. Vomiting, frequent desire to pass water, blood in urine.	Kidney (Stone)
Abdominal pain increased by pressure. Knees drawn up, patient lies on back, abdomen puffed up. Obstinate constipation and vomiting.	Peritonitis

Local Inflammation and Pain

Shivers, headache, pain in back, often sickness. Temperature raised, urine diminished or almost suppressed, is occasionally bloody and coagulable.	Bright's Disease
High Temperature. Quick pulse, thirst, sore throat, loss of appetite, thickly-coated tongue among earliest symptoms. Restlessness and lack of sleep. Constipation and urine highly-coloured. Pain and tingling precede inflammation of the skin.	Erysipelas
Inflammation and pain in great toe or other joints.	Gout
Stiffness and pain in getting up from sitting posture or in turning over in bed at night.	Lumbago
Tingling and numbness in hands and feet, severe burning pains in limbs, tenderness in muscles.	Neuritis (Inflammation nerve fibres)
Stabbing and shooting pains in affected side, increased by deep breathing or coughing. A fine rubbing sound may be detected. Pulse quick, tongue coated, thirst and loss of appetite, raised temperature.	Pleurisy (Inflammation of pleura or membrane covering lungs)

Symptoms.	Probable Complaint.
Local Inflammation and Pain	
Restlessness and fever, white or creamy tongue, bowels deranged. Joints ache and pain increases till great swelling and tenderness over one or more large joints, temperature rises, urine deposits thick brick-dust sediment on cooling. Profuse perspiration.	Rheumatic Fever
Convulsions, Fits, etc.	
Person falls insensible, face and neck livid and swollen, breathing loud and snorting. Pulse full and slow. Pupils frequently unequal size.	Apoplexy
<i>Partial</i> :—Arm, leg or portion of face twitches. <i>General</i> :—Muscles of face, eyes, eyelids and limbs in violent state of rapid contraction, alternating with relaxation. Froth at mouth.	Convulsions
Person usually gives a peculiar cry and falls unconscious. He becomes rigid, holds his breath and turns livid. Convulsions, foam from mouth.	Epilepsy
Unconsciousness, pallor, coldness, perspiration, feeble, shallow and irregular breathing.	Fainting
Flushed face, injected adnatæ, full rapid pulse, visibly bounding carotid and temporal arteries, and stertorous respiration.	Heatstroke
Convulsive struggling, alternate fits of laughing, crying and screaming.	Hysterics
Dizziness, headache, drowsiness, nausea, faintness and coldness, clamminess and pallor, irregular pulse, sighing respiration followed by syncope.	Sunstroke
Debility	
Pale skin and mucous membranes, lips and gums pale pink, exertion difficult, breathlessness on climbing to a height or going upstairs. Palpitation, headache, pain in back and left side.	Anæmia
Extreme weakness and nervous prostration. Mental depression. Curious depressing headache, like a heavy weight pressing on head.	Neurasthenia
Common in children. Small white specks on lining membrane of mouth. Thirst, swallowing difficult. Urine scanty and high-coloured.	Thrush

THE DOCTOR

CHAPTER I

How to Keep Well

THE life lived by civilized man is so unlike that of his primitive ancestors, that it is impossible for him to trust unquestioningly those native instincts and inherited impulses which became fixed in human nature under conditions so different from ours to-day. The lives of wild animals repeat themselves, so far as external conditions are concerned, with little variation over countless periods of years. But this is by no means true of man, or of those animals which man has deliberately domesticated. By the use of reason, man has changed his environment. And it is to his reason that he must look for guidance as to the necessary change in his habits called for by the altered conditions.

The condition of health is a condition of balance : each part functioning smoothly, adequately, and in due proportion to the rest. Disease results from a disturbance of the balance, and the ultimate consequences of what may seem a trivial derangement are often enormous. Clearly, if we would maintain our state of health, the most fundamentally important and useful thing is to learn and to follow those modified rules of life which civilization demands. For, once the balance has been upset, a sequence of events follows, the starting-point of which it is not always easy to detect.

The Value of Health

Health of body and mind is a blessing of such inestimable value, and is so obviously one of the greatest sources of earthly happiness, that the efforts of all wise persons should be directed towards its attainment. The problems of health and disease are largely a matter of simple observation and common sense. Unfortunately, a large part of the public will not accept this view. They demand mysteries and miracles. They believe

that it is all a matter of stethoscopes and X-rays; of bottles of nauseous medicine, or injections of the latest serum. It is all to them an esoteric and secret craft. As disease is simply a departure from perfect health, our earliest attention should be given to the chief agents which produce any disturbance of, or departure from, absolute health, so that we may be the more able to combat them successfully. The innumerable external influences which disturb the natural condition of our organs, or the balance of the functions which they perform, as, for example, excess or privation of the air we breathe, the water we drink, the food we eat; variations in the direction of the superabundance or deficiency of the light, heat, and electricity which modify the nutrition of our bodies; all these are among the prime factors in the disturbance of human health, and as such demand our serious consideration.

Regular habits are essentials in the foundation of a sound and healthy constitution, and children should be so trained from an early age, especially as regards meal times and exercise.

The Birth of Disease

There is one other point that may, with advantage, be more clearly realized. Disease is not, in truth, a highly departmentalized affair, as it is generally supposed to be. The divisions of the various symptoms of physical disorder into groups with specific names is largely artificial. One symptom or one organ may present the most obvious symptom of a particular disease; but there are generally other symptoms and modifications of the functions of other organs little less significant. So that it is quite impossible intelligently to consider, or to treat, the most obvious effect without consideration or understanding of its relation to the other effects. Also, the rational treatment of disease is impossible without a knowledge of its history right away back to that early "not-feeling-up-to-the-mark," which signified its onset, or opened the door for its invasion.

Heat and Cold as Causes of Disease

These are two of the most prolific sources of disturbance of perfect health, and they enter very largely into health considerations, chills especially being responsible for a large

proportion of our ailments. Unguarded exposure to intense heat, especially from the direct rays of the sun, is liable to produce sunstroke, which often proves rapidly fatal. Every one susceptible to such influence, therefore, should avoid exposure to the sun in very hot weather.

Effects of Cold

Extreme cold is no less fatal in its effects than extreme heat. In a minor degree it gives rise to frost-bite and chilblains.

When the surface of the body has been chilled by exposure to cold and wet, the feet should be soaked for 10 minutes in hot mustard and water, and the patient covered over with blankets in a warm room, and given hot milk, cocoa, or gruel, to induce free perspiration.

In soaking the feet, the mustard and water should only be moderately hot to commence with, and the temperature of the foot-bath gradually raised by the addition of boiling water. The general mistake is to have the water in the basin or bath so hot to commence with that the sufferer is quite unable to bear it. Consequently he waits till the water is little more than lukewarm, and then immerses his feet, when the bath is of very little practical use.

Pure Air

The importance of a sufficient supply of pure air can scarcely be over-estimated. In ill-ventilated places the proportion of carbonic acid gas in the air becomes greatly increased, which renders it deleterious and dangerous, and what is even more important, the motionless air fails to stimulate our superficial nerves.

Among the more important causes of atmospheric vitiation are the carbonic acid and other substances given off from the lungs; gases arising from drains, sewers, cesspools, etc., which often contaminate the air, giving rise to pestilential disorders; noxious gases from manufactories, chemical works of various kinds; and the air of marshes or low-lying meadows, which favours the growth and circulation of micro-organisms, producing disease.

The dust in the air contains, among other things, bacteria, innumerable epithelial scales from the skin of men and animals, hairs, fragments of wool, cotton, pollen grains, splinters of

wood, bark, shreds of leaves, particles of coal and many other substances. Some of these irritate the lungs mechanically, as, for example, anthracite or bituminous coal, which predisposes to miner's consumption; the fine particles of steel thrown off in grinding saws and other instruments; the dust in potteries, etc., all exert an injurious influence upon the lungs.

Ventilation

The great remedy for the impurity of the air within doors is ventilation, and the best method of accomplishing this has been for many years one of the great problems of science.

As the air of an inhabited room cannot, at the best, be as pure as the external atmosphere, the problem of ventilation is to reduce the impurities of respiration to the point where health will not manifestly suffer by drawing them into our lungs again.

Pure Water

Water is the second great material necessary for existence. Without food or water, life has been prolonged for 14 days. Without food, but with access to water, a man has lived for over 8 weeks.

If water is thus an absolute requisite for life, pure water is a no less imperative necessity for health, and as the possibilities of contamination are very numerous, owing to its great solvent powers, the sources of our drinking supply should be very carefully watched.

When travelling in unhealthy countries, or during the prevalence of an epidemic, it is a wise plan to use for cooking or drinking purposes only boiled rain-water, if obtainable. Small portable filters are invaluable travelling companions in a malarial district, and when reliable water cannot be had.

Baths and Bathing

In order to understand the value of bathing we must glance briefly at the anatomy and physiology of the skin. In the first place, we have on the entire outer surface of the body a layer of membrane, like thin leather, called the epidermis or cuticle; this stratum is not supplied with nerves, and is therefore insensitive. It is the portion which rises up when the hands are blistered.

Just beneath the epidermis lies the true skin, or corium, a tough membrane, richly supplied with blood-vessels and nerves. Hence it bleeds and feels pain at the slightest cut or puncture, and the finest needle cannot be thrust into it without wounding some little artery or vein and some tiny filament of nerve. Under the true skin lies the subcutaneous cellular tissue, which generally contains a quantity of fat.

The most important constituents of the skin to be noticed for our present inquiry are the sweat glands, the oil glands, and the hair and nails, usually spoken of as appendages to the skin.

The sweat glands are twisted and coiled-up tubes, occupying the true skin and the layer of tissue beneath. They open upon *pores*, almost invisible to the naked eye. When we are at rest the flow of perspiration, though constant, is seldom so free that it does not evaporate almost as rapidly as it exudes, so that the skin is only kept pleasantly moist; but during exercise, especially in warm weather, the cutaneous surface becomes covered with drops of fluid.

When the pores of the skin are partly choked up, so that they cannot perform their work properly, some of this duty of purifying and regulating the volume of the blood is thrown upon certain internal organs, such as the kidneys or intestines, and should these happen to be weak, diseased, or already overtasked, serious disturbance may be brought on throughout the whole system. Hence the importance of keeping the skin of the whole body clean by the free use of the bath.

Warm Baths

For purposes of cleanliness, the baths par excellence are those of warm water, this term being applied to those in which water of a temperature from 70° to 80° Fahr. is employed.

Soap or alkali in some form is necessary to remove the fatty matter poured out by the oil glands already described. Many persons are apt to remain too long in a warm bath, and care should be taken to avoid this error which has a debilitating effect on the system.

The frequency with which a warm bath should be repeated varies with different individuals. A safe rule, to which of course there are exceptions, is to bathe the body twice a week in winter and every other day in summer, gradually increasing the frequency to a tri-weekly washing in winter and a daily one

in summer, if experience proves that better health is secured by such a habit.

The best time for a warm bath for those who are in robust health, but are liable to take cold, is in the evening, when they can go to bed at once, and so avoid all exposure for some hours afterwards. Invalids, however, and those of a delicate constitution, will often find that they endure the exertion of taking a bath best about 11 o'clock in the morning, after the digestion of the morning meal is accomplished, and before they are tired out with the fatigues of the day.

Hot Baths

By these are meant those of a temperature of from 85° to 105° F., which are chiefly used in the treatment of ailments and diseases as powerful stimulants. Every parent should remember that a hot bath, causing free perspiration, followed by wrapping up warm in bed with blankets, will often save children and adults from severe attacks of illness, if promptly resorted to after exposure to cold or wet.

Cold Baths

These are invaluable aids in promoting and preserving health if properly used in suitable cases ; but may become dangerous agents, causing even fatal results, if employed by the wrong individuals, at improper times, or with excessive frequency. If an experimental cold dip the first thing in the morning, followed by a brisk rubbing with a loofah and drying with a rough towel, produces a healthy glow and a feeling of exhilaration, the practice may be safely followed every day for at least eight months in the year. But if the skin turns blue, or headache, languor or sickness follow, the practice must be given up.

Baths should never be taken immediately after a meal, nor when the body is very much exhausted by fatigue, or excitement of any kind. Women should avoid bathing at such times when it would be under conditions liable to endanger their health. Children and elderly persons should use warm or tepid baths, never below 70° Fahr.

Turkish Baths

These are often useful adjuncts to treatment in obstinate colds, rheumatism and other complaints, besides having a

decided value in health. It is not everybody that can tolerate the whole of the somewhat prolonged treatment and those suffering from organic disease should never take a Turkish bath, save under express medical sanction.

Sea-Bathing

This is one of the best means of strengthening the system, either to prevent the development of actual disease, or to restore the original vigour to a constitution recovering with difficulty from the effects of some debilitating malady. Many delicate women and children are not strong enough to endure the shock of cold sea-baths from the beach ; for them a bath of warm salt water, taken comfortably at home, is invaluable.

Food

Nothing is more important to physical well-being, and consequently to the attainment of long life, than the two evidences of a healthy stomach—good digestion and appetite.

If we consider the amount of ill-temper, despondency, and general unhappiness which arises from want of proper digestion and the assimilation of our food, it seems obviously well worth while to put forth every effort, and undergo any sacrifice for the purpose of avoiding indigestion and the bodily ills which result. Regularity of meals is an essential to good health.

Composition of Food

The materials which make up our food, besides water and saline ingredients, are : first, the *proteins* (such as meat, eggs, cheese, the gluten of wheat flour, peas, beans, etc.) ; second, the *fats* (as the fat of animals, butter, olive-oil, etc.) ; and third, the *carbohydrates*, comprising starch, sugar and molasses in all their varieties (bread, potatoes, rice, etc.).

The office of the first of these groups is to supply the waste of muscular substance or tissue caused by pulsation of the heart, breathing, eating, etc., and by physical exercise, such as manual labour, walking, or riding. Fatty articles of diet are chiefly employed to sustain the heat of the body by their gradual combustion, and the saccharine elements contribute to the same end.

Vitamins

In addition to proteins, fats and carbohydrates, it has been

shown during recent years that there are certain subtle but indispensable elements of nutrition called vitamins. In an ordinary dietary these are present in small, yet sufficient, quantity, but where no fresh foods are available these substances may be absent, and the lack of them results in the production of what are now called "Deficiency Diseases." Scurvy and beri-beri come under this classification, while Rickets also is definitely due to a deficiency of vitamin D.

For practical purposes it may be taken that absence of vitamins only occurs either when a diet is very limited or when fresh foods cannot be obtained.

Quantity of Food

A healthy, full-grown man, doing a moderate amount of work, requires daily about $4\frac{1}{2}$ oz. of dry nitrogenous, 3 oz. of fatty, and 15 oz. of sugary and starchy food, besides 1 oz. of saline matter. Under ordinary circumstances, the penalty for taking less than this amount of food is loss of flesh and strength, more or less rapid in proportion to the degree in which economy of nutriment, forced or otherwise, is actively carried on.

The penalty incurred by eating more than these quantities is derangement of the stomach, the liver and intestines, by thus overloading them; and a consequent production of dyspepsia, biliousness, diarrhoea, or constipation, with their innumerable attendant evils.

As a rule, women need about nine-tenths of the nourishment requisite for men; boys of 16 about the same as women, and children of 10 years half the amount necessary for adults. Individual peculiarities, whether temporary or permanent, should be studied and conformed to with the utmost care.

Quantities at Different Meals

The quantity of food taken into the stomach at different meals is a matter of great importance. Speaking generally, the morning meal should comprise one-third of the meat and two-sevenths of the starchy nutriment; dinner should include the remaining two-thirds of the meat and three-sevenths of the starchy materials; and the evening repast consist of the last two-sevenths of the saccharine and starchy matters.

Few adults, and hardly any children and old people, can be

careless about their diet without suffering severely later on, even if no ill effects are immediately experienced.

Mental anxiety or labour, as well as bodily exertion, should be avoided during, and for half an hour after, a full repast. Lighter meals may be advantageously followed by gentle exercise. Complete mastication of the food is vitally important to health and long life.

Variety of Diet

We have already seen that it is possible to starve in the midst of plenty ; to starve, that is, for want of one necessary constituent of food, though all the others may be supplied in abundance. A good housekeeper will, therefore, take care that upon her table is set a variety of well-chosen food, and very often indeed, by the exercise of a little care in dieting, she may prevent much worry in nursing and save money in doctors' bills. People suffer from diseases of [malnutrition much more through bad management than because of a short purse. It will often be found, especially with children, that they are ill for want of certain kinds of food, and yet will not take them in their ordinary form ; it is then the part of the housekeeper to produce the food in such a form that it is not recognized, or to find the same substance in some other form.

Digestion

Digestion is a complicated process and, as a rule, a slow one ; for the food we take has to be practically reduced to liquid form so that it may be absorbed into the blood-stream, and then distributed right through the body for the maintenance of health, work and life. So we can regard the digestive tract as a sort of chemical laboratory ; indeed, digestion is a wonderful chemical process, and it is very doubtful if any laboratory could do what the digestive apparatus has to do—and does, in health, with the utmost regularity.

From this point of view, then, we will regard the process. First the mouth. Here we have the equivalent of the grinding room of the laboratory. The teeth are arranged precisely in the order of their work : the cutting teeth in the front—just to take into the mouth the portion desired, and separate it from the piece in hand ; the tearing teeth—working on meat and tougher tissues, making the mass into a rough sort of pulp ; the larger flat surface teeth at the back, the grinders—reducing

still further the total mass of food. Then you will notice that it is a "wet" process, for the mouth is full of saliva, and this blends with and softens the food. But more than this : there is in the saliva a digestive ferment for dealing with starch, and if we would only masticate more thoroughly and eat more slowly, this ferment would save a great deal of digestive labour at a later stage. The ferment is secreted with the saliva : it is called "Ptyalin," and although small in quantity is potent in quality. The mouth then being the first stage—really the first opening to the stomach—deserves more care than it generally gets. Not only should the teeth be kept clean but the mouth itself ; a rinse, night and morning, or, better still, after every meal, with a pleasant antiseptic solution would help us all. The taste buds or nerves of the tongue have something to say about this : only with a clean mouth will they be able to give us all the pleasure taste can afford. And taste helps digestion, for the pleasanter the taste the longer the food remains in the mouth and the more the mouth can do. It is an axiom that no part of the body can do the work of the mouth. While the moralist will tell you that "out of the mouth proceedeth many unpleasant things," for us, in a study of digestion, we have to consider that into the mouth may go many things which are as undesirable as they are unpleasant.

The swallowing of food is the next stage. The gullet, or œsophagus, is a tube connecting the mouth with the stomach. It is a series of ring-like muscles which grasp the food and pass it gradually into the stomach. This explains why we can take food as easily lying down as standing up ; if the swallowing were regulated by the law of gravity it could not be done. One of the most terrible afflictions is a nervous throat : in this condition the muscles will often cling to the smallest particle of food and convey a choking feeling, which is not relieved until the particle has been dislodged in some way or another.

The stomach is a flexible bag with two openings : one from the gullet, and the other, the pylorus, out into the small intestine. The stomach itself is lined with a delicate mucous membrane, supported by a series of muscles, which cause the food to be turned over and over, forwards and backwards, so that each part may come in contact with the digestive juices. These come from glands in the stomach itself. First and most important are the peptic glands, secreting and giving forth pepsin. This by itself would be quite useless, but it is made

active by reason of the hydrochloric acid which forms from the common salt we take with our food.

The heat of the stomach separates the fatty substances from the other foods ; the juices and the mucus make the food into a sour semi-fluid mass known as chyme, and then, with a sudden sweep or gust, the food passes through the narrow gateway at intervals, controlled by a complicated neuromuscular mechanism, so that only fully-prepared matter can pass by, and then the food is in the small intestine ready for the next stage.

Here the conditions are reversed. The acid nature of the food is now made alkaline ; the intestine is a very wonderful tube of great length, turning and folding itself in remarkable shapes so that the food may get the greatest possible contact with the walls of the tube, and thus receive full attention. But, however complicated it may look in illustrations, the whole is nothing more than a tube, through which the food goes onward and forward, but it is a tube lined with muscles, mucus, absorbing apparatus, glands and projections, all assisting in the work of digestion. The chief digestive agent active in the small intestine is the pancreatic juice, and the first syllable "pan" indicates its universal use. For this single product is very complex ; it can and does provide material for digestive fats, albumens, starches, and chemically combines three distinct agents in itself. There is the proteolytic ferment which deals with the body-builders (the albumens or protcids as they are sometimes called). This ferment tackles them all and makes them into a liquid albumen, so that the food can flow through the arteries, then through the capillaries, and thus every part of the body is fed with the life-giving stream. Then there is a fat-splitting ferment, which reduces all fats to fatty acids and glycerine, makes them very fine in substance, recombines them once more into complete fats, ready for actual use in the body. Thus the fats are absorbed into the lymphatic system, and so they enter the blood-stream. The amylolytic ferment is the last of the series. This turns starches into sugars—grape sugar or dextrose, sometimes called glucose, in which form alone can sugars be utilized in the body. Even cane sugars have to be so inverted : only fruit sugars (dextrose and maltose) can be taken into the blood-stream without digestion.

Just as the pepsin of the stomach cannot act without its

controlling acid, so the ferments of the pancreas would be unable to work properly without their controlling alkali, and this comes from the liver. It is here, in the small intestine, that water is absorbed. It is never taken up by the stomach itself, but passes on to the small intestine, and warm water is said to be quicker in absorption than cold. In drinking to quench thirst it is well to remember that the liquid should be slowly sipped and allowed time to come into contact with the parched surfaces : otherwise a large amount of liquid may be taken, and the thirst still remain.

After the food has passed through the small intestine there may be some portions which require further digestive treatment. The food has been subjected already to (1) a grinding and moistening : (2) an acid reaction, and (3) a long and careful alkaline treatment. The next and final stage depends on fermentation by bacterial agents. This takes place in the large bowel. From 12 to 20 hours the food is here : anything useful is absorbed through the walls of the bowel, and the end of the process shows a small amount of more or less solid waste which must be rejected every day. This is by no means all waste food : it contains a large amount of used-up portions of the body—waste digestive materials and similar matter. But of course anything in the nature of really waste food is here : fruit-stones, pips, skins, can all be traced this way. And from the appearance of the excreta the doctor is able to tell us how we are using our food.

Stimulants to digestion are useful, if used in moderation. Mustard, pepper, sauces, chutney, may all help. Mustard will make the juices in the stomach flow. Alcohol is absorbed at once : it practically wants no digestion, and probably this instantaneous action is the cause of its wonderful reviving power. Yet constant use will spoil even this great and useful property. Brandy, to be really useful as a medicine, should only be taken as a medicine and not as a beverage ! So with other alcoholic drinks.

Our last word is only somewhat related to digestion. What is appetite ? It is difficult to say. It is not hunger. We may have no sensation of hunger at all and yet find an appetite when we see a tempting dish before us. " Makes our mouths water " is a common saying about nice food. Perhaps that's the secret. If the juices are ready in the mouth and the stomach, then appetite comes. So daintiness counts. God-

given food must be served at its best ; every meal served so that it may be an offering to the Giver of all good things. Then appetite will wait on digestion, and digestion on appetite, and the work of the cook will be the best work in the world !

Cleanliness of Household Utensils

This is a matter which often receives far too little attention. Utensils should be cleaned as soon as finished with ; if left dirty they soon attract flies and other insects, and form a breeding-ground for disease.

Disposal of Refuse

This is a matter which, if neglected, will encourage fly-borne infections. The fatal epidemic, Summer Diarrhœa in infants—one of the outstanding factors in infantile mortality—is spread by flies encouraged by decomposing refuse. As much refuse as possible should be immediately burned ; special refuse destructors, suitable for indoor use, are obtainable.

Where refuse cannot be burned, sanitary dust-bins should be used. Matter deposited in dust-bins should be as dry as possible, as moisture accelerates decomposition.

Care of the Teeth

Much depends upon the state of the teeth. To bad teeth may be traced indigestion and all its attending ills. (*See The Teeth in Relation to Health*, p. 210.)

Exercise

The most important effect of exercise is felt by the lungs and the heart. The circulation of the blood is hurried much above the ordinary rate, and, as a consequence of this greater influx of blood to be oxygenated in the air-cells, the quantity of air inspired, and the amount of carbonic acid exhaled, are both largely increased. During active exertion, therefore, the free play of the lungs should not be impeded by tight-fitting clothes.

Muscular exertion speedily increases the force and frequency of the heart's pulsations ; to a moderate extent, this is very beneficial to the organ, but care must be taken that it is not overdone, even by the strongest. Persons suffering with " weak heart " should indulge in athletics only under medical advice.

Severe muscular exertion increases the flow of blood in the small blood-vessels of the skin, and causes a profuse discharge of perspiration. During active exercise there is little danger of chill; but immediately afterwards, and also during the intervals of rest, the skin should be so warmly protected as to prevent the least coolness of the surface. For this purpose flannel is by far the best covering.

Moderate exercise causes the muscles employed to increase in size, become harder, and respond more readily to the commands of the will; but if the exercise is too prolonged, or excessive, the opposite effect is produced, and they begin to soften and waste.

Deficiency of exercise is apt to lead to weakening of the heart's action, from a change of the muscular structure into fat (fatty degeneration).

It has been calculated that, for an individual weighing 150 lb., and in good health, the daily amount of exercise ought to be equal to that put forth in walking $8\frac{1}{2}$ miles on level ground. For females of average strength, about half this amount of exercise would generally be appropriate. The modern girl, however, is almost as hardy as her brother, and can safely exceed this amount.

The mistake which sadly diminishes the benefit of gymnastics and physical training, is that they are too often performed in a close room.

The Right Time for Exercise.—The time at which exercise ought to be taken is of some consequence in obtaining from it really beneficial results. Those who are in perfect health may take exercise at almost any hour, except immediately after a full meal; but those who are not robust ought to confine their hours of exercise within narrower limits. To a person in full vigour, a good walk in the country before breakfast may be highly beneficial; while to an invalid or delicate person it will prove more detrimental than useful. In order to prove beneficial, exercise must be resorted to only when the system is sufficiently vigorous to be able to meet it. This is the case after a lapse of from 2 to 4 hours after a moderate meal and consequently the forenoon is the best time. If exercise be delayed till some degree of exhaustion from the want of food has occurred, it speedily dissipates instead of increases the strength which remains and impairs rather than promotes digestion. A mere stroll, which requires no exer-

tion and does not fatigue, will not be injurious before or after eating ; but exercise beyond this extent is at such times hurtful. When we know that we shall be forced to exertion soon after eating, we ought to make a very moderate meal, in order to avoid setting the stomach and muscles at variance with each other and exciting feverish disturbance.

Exercise in Childhood

The amount of exercise in childhood and youth should be carefully regulated. It is important not to restrict too much the movements of infants, and care must be taken that their clothing is not too tight to allow ample freedom of the limbs.

During childhood and youth, effort should be made to exercise every important muscle in the body, each in its turn, so as to secure for all the muscles a complete and symmetrical development, and consequently robust health.

Physical exercise, as well as mental exertion, should be regulated with special care in young girls about the epoch of puberty, since the changes of the constitution at that critical period often render ordinary rules and habits useless or even injurious.

Sleep

Sleep is intended to repair the expenditure of power in the system consequent upon mental or bodily fatigue, and its duration should therefore be proportional to the loss of vigour actually met with during the preceding period of daily activity.

In early infancy, the active processes of growth and development going on in the budding organism require a correspondingly greater amount of repair, which is largely contributed to by frequent slumbers, occupying a majority of the 24 hours.

The necessity for frequent periods of sleep, which is quite imperative in the young child, becomes gradually less and less pressing until, after the age of 2 or 3 years is reached, repose during the night only is required.

In the prime of manhood or womanhood, the proper period is more readily determined, and is much shorter than that suited to infancy. In advanced life the expenditure of physical and mental power is smaller, and less need of prolonged repose is felt by the system ; although in extreme old age, or second childhood, the body often reverts to its infantile habits of frequent slumber.

Importance of the Habit of Sleep

The amount of sleep is greatly influenced by habit, and, contrary to what might have been anticipated, we find that exceptionally brief sleepers have generally been men of the greatest mental calibre. As a general rule, from 6 to 8 hours of repose are required in the 24 to keep the system in a state of healthful activity.

The effects of a habitual deficiency of sleep are a sense of wretchedness and prostration, frequently accompanied by great restlessness.

Headache, fullness, heat, throbbing and various other unpleasant sensations about the head, give warning that the brain is being overtasked, and, should this warning pass unheeded, sleep, which at first it was difficult to resist, becomes even more difficult to obtain; a state of general restlessness and feverish excitement is induced; and if the mental task be continued, serious consequences are bound to follow. (*See also Insomnia, p. 140.*)

Ventilation of Bedrooms

Though the want of pure air is favourable to stupor, an abundant supply of it is requisite for healthful sleep. It is particularly desirable, therefore, that the bedroom should be spacious and well ventilated. Of course draughts are to be avoided. Almost any degree of cold in the bedroom will be safe while the sleeper is warmly nestled beneath his blankets. In the case of children and young persons predisposed to consumption, it is imperative that they should breathe fresh air by night as well as by day.

In the preceding pages have been set forth several basic health principles, but a word of caution must be added. It is necessary to discriminate between the proper observance of these principles and undue fussiness, the latter tending to the production of neurotics, who make their own and other lives miserable by always imagining impending illness.

CHAPTER II

Infectious Diseases

(For specific diseases, see THE MEDICAL A. B. C., p. 47.)

THE word infection is applied to the vehicle by which a malady is transmitted from one person to another by the air, and with or without actual contact. Scarlet fever, measles, whooping-cough, mumps, etc., are infectious, and make up the class of disorders popularly known as diseases which are "catching." If no doctor is called in and the parent is aware that a notifiable disease has occurred in the house he is legally bound to inform the Medical Officer of Health.

The most probable doctrine of the true nature of infection is that set forth in the germ theory of disease. This hypothesis, which has exercised a most important influence on modern medicine and surgery, accounts for the symptoms of infectious diseases by attributing them to the presence of specific microscopic organisms called bacteria in the affected persons, and to the poisons or toxins produced by them, and liberated into the blood-stream.

The period of incubation (by which is meant the time between exposure to small-pox, for example, and the outbreak of the complaint) is supposed to correspond with the time required for the sprouting of the seeds of these minute plants within the body. The gradual increase in the severity of the symptoms is attributed to the progressive growth of millions of tiny vegetable organisms, whose period of greatest luxuriance marks the height of the attack, and the death and destruction of which correspond to the decline of the disease.

Capriciousness of Infection

Infection is often very capricious. Occasionally, in a family of children, one will be very ill with scarlet fever, and

the rest, although exposed to the microbes of the disease, will escape without being infected; at other times, all the members of a household, except those protected by a previous attack, will take the malady in spite of all precautions to seclude the affected child from its brothers or sisters. This is, no doubt, due to some constitutional peculiarity.

The infection of small-pox is probably the most virulent of any that we have ordinarily to deal with, and, but for the discovery of vaccination by Jenner, would, perhaps, have continued to prevail as a terrible scourge of our race. People of the present day who complain of the temporary inconvenience and the dangers of vaccination, can only do so through ignorance of the horrible suffering, painful deformity, and appalling mortality which attended small-pox in pre-vaccination days.

The infection of small-pox is extremely active, spreading readily through a house, and often to neighbouring dwellings. It may be conveyed by the breath of a person affected with it before any eruption appears, and has been caught from a dead body, 12 days after decease. It may be transmitted across long distances in clothing, bedding, letters, etc., unless care is taken thoroughly to ventilate and disinfect them.

As it is often propagated by unscrupulous persons when travelling whilst sick with mild forms of small-pox, or varioloid, we would advise every one to examine carefully, at the first opportunity, a vaccine pock upon a child's arm, 5 or 7 days after a successful vaccination, and then studiously avoid proximity to any strangers having similar eruptions upon their skin. Stringent laws are properly enforced against persons who endanger the public health by running the risk of disseminating the poison of small-pox or other infectious disease.

Unfortunately, such safeguards as vaccination against other infectious diseases, such as scarlet fever, measles, etc., are not in general use, and precautions against incurring infection become all the more important, especially during epidemics, or at times when we are run-down.

Diseases among School Children

These diseases are very apt to be propagated by the return to school of children recovering from measles or diphtheria, for example, before they are entirely free from infection.

Parents should remember that it is only fair to other children that special care should be taken in this matter.

Quarantine

The following table will be useful to parents, as showing how soon after an attack of infectious disease or exposure to infection a child may return to school without risk.

Disease.	Infection after an attack ceases.	Quarantine required after latest exposure to infection.
Chicken-Pox	When every scab has fallen off .	Twenty days.
Diphtheria	About four weeks after the commencement of attack, if no complications.	Twelve days.
German Measles	Ten days after appearance of the rash.	Twenty days.
Measles .	Two weeks after appearance of the rash.	Sixteen days.
Mumps .	Three weeks, or one week after disappearance of the swelling.	Twenty-four days.
Ringworm.	When examination shows no broken hairs, and no spores.	
Scarlet Fever	Six weeks, or when sore throat, albuminuria and desquamation have disappeared.	Ten days.
Small-Pox	When every scab has fallen off .	Sixteen days.
Typhus	Four weeks	Fourteen days.
Fever		
Whooping-Cough	Five weeks, or two weeks after cough and whooping have disappeared.	Twenty-one days.

This table accords with the Code of Rules laid down by the Association of Medical Officers of Schools.

Isolation and Disinfection

When any member of a family is attacked with small-pox, scarlet fever, diphtheria or other infectious disease, the complaint may generally be prevented from extending by attention to the following rules: Place the patient in one of the upper rooms, the farthest removed from the rest of the family, where the best ventilation and isolation are to be had. He should be under the *sole* charge of a nurse who is protected by a previous attack of the disease. The apartment should first be cleared of all curtains, carpets, woollen goods, and

unnecessary furniture. To secure the utmost cleanliness, provide a basin partly filled with chloride of lime or strong carbolic acid solution (a teaspoonful of acid to half a pint of water), in which the patient may expectorate when necessary. Change the clothing and bedding of the patient as often as needful, but never let the cast-off articles be carried dry through the house.

A large pail or bath containing carbolic acid solution (4 fluid oz. of carbolic acid to each gallon of water) should always stand in the room for the reception of bed or body linen immediately after it has been removed from contact with the patient. While in the sick-room the nurse should wear a loose gown and tight-fitting cap, to be thrown off at the door, and her hands should be washed in carbolic before going out. Handkerchiefs and napkins should not be used, but pieces of rag, which should be at once burned.

Glasses, cups, dishes, etc., must be scrupulously cleansed in fresh carbolic acid solution, or in boiling water, before they are carried away from the room. All discharges from the body are to be received at once into vessels containing disinfectant, a solution of perchloride of mercury, 1 part per 1,000 of water, or carbolic solution, and immediately removed under cover. They should be thoroughly disinfected before being poured down the drains. A sheet kept moistened with carbolic of double strength, or half a pint to the gallon, may be hung over the door outside, more as a warning and a reminder than for the purpose of catching any germs of the disease which might otherwise escape. Boiling is the surest way of disinfecting contaminated clothing, or it may be baked in an oven heated to about 240° Fahr.

After the disease is over, the patient should be kept isolated for 10 days after all the scabs fall off in small-pox, or after the "peeling" of the skin is complete in scarlet fever; for the last week of isolation, baths containing carbolic acid, or other disinfectant, should be given daily, or every other day, and every part of the body should be bathed, especially the scalp, as infection is apt to linger about the roots of the hair. The peeling of the feet and palms of the hands may be hastened by the use of pumice stone.

To purify the apartment, wash the furniture, woodwork, floor and walls with the carbolic acid solution and soap. Then shut up the room tightly, pasting up windows and

chimney with brown paper, and burn in it 1 lb. of sulphur for every thousand cubic feet of space it contains. (A room 15 feet long, 12 feet broad, and 9 feet high, for instance, would require 1½ lb.) The action of the sulphur dioxide produced is more certain if the air of the room is moist. Steam should therefore be introduced half an hour before the sulphur is burnt, or the walls thoroughly sprayed with water.

The sulphur is best burnt in an iron dish supported upon a basin of water. To start it burning moisten with a little methylated spirit. Allow the fumes to remain in the close room for 24 hours. Lastly, open doors and windows so as to ventilate freely, for a week, at the end of which time disinfection may generally be considered complete.

A more modern method of disinfecting, which has the great advantage over sulphur of not injuring fabrics and pictures and not bleaching colours, is the use of Formic Aldehyde Gas, produced by a lamp that may be bought from any chemist; or a formalin spray may be used. The principal disinfecting establishments now use formalin in preference to sulphur. The local Sanitary Authority is ready to supply disinfecting fluid on application, and general disinfection is usually carried out free of charge by direction of the local Medical Officer of Health if his aid is sought either directly or through the doctor in attendance.

How to Avoid Infection

Obviously the surest way to avoid infection is to absent oneself from the infected person and his surroundings. Where this is impossible two rules must be remembered:—

(1) To adhere strictly to the antiseptic precautions described above, bearing in mind the usual modes of transmission of the disease from which the patient is suffering.

(2) To avoid remaining unnecessarily long in the close vicinity of the patient and to get into the fresh air at frequent intervals.

Inoculation

Inoculation consists in the injection of a specific substance designed to prevent or modify a specific disease. The object, in other words, is to produce immunity to the disease.

Two chief methods are employed:—

(1) *Vaccines*.—In this case dead (or attenuated) bacteria

are injected with the object of stimulating the patient to produce his own protective substances.

Typhoid, cholera, and influenza are examples of diseases in which protective vaccines are used.

(2) *Anti-toxins*.—These are, as a rule, prepared from blood serum taken from a horse which has been gradually rendered protected or immune to a specific disease by the injection into it of the specific germs of the disease in increasing doses. In this way the blood serum of the horse is rendered highly inimical to the disease.

Diphtheria and tetanus (lock-jaw) are the best examples.

Diphtheria Anti-toxin is one of the most brilliant discoveries of curative medicine, for not only does it give absolutely specific protection for a short period to the disease, but also acts as an almost certain cure if injected early when the disease develops.

Tetanus Anti-toxin is of chief use as a protection against lock-jaw. If it is injected soon after the occurrence of a wound which is likely to be infected with the germs of lock-jaw it is almost certain to prevent the disease.

When the disease has actually developed it is of comparatively slight use.

Vaccination

Small-pox is of all diseases the one in which the fact that prevention is better than cure can be most emphatically proved, because we have a means of prevention ready to hand. Vaccination or inoculation with lymph taken from vesicles, the result of inoculation with calf-lymph, has been made compulsory in most of the countries of the civilized world. Arm-to-arm vaccination was formerly the custom, but now the law orders that only lymph taken from calves that have been proved to be healthy is to be used. Vaccination undoubtedly contributes protection against small-pox. An infant successfully vaccinated is partly protected for a period of 7 years, when it should be re-vaccinated. The operation should be repeated in another 7 or 8 years' time, and again at similar intervals should there be an epidemic or exposure to infection. A recently and successfully vaccinated person rarely takes small-pox, and one who has been adequately vaccinated in the past, if he should catch the disease, will have it in a very mild form.

CHAPTER III

Domestic Medicines

And the Illnesses and Complaints they should be used for

ALL drugs should be kept in bottles under lock and key, and should be properly stoppered and carefully labelled.

Ammoniated Tincture of Quinine

For Colds. Should be taken at an early stage, when it will help to ward off a cold.

Bicarbonate of Soda

This drug is largely used in certain forms of indigestion, as well as in gout and rheumatism. The ordinary dose is from 10 to 30 grains. In cases of heartburn great relief is usually obtained by taking one teaspoonful of bicarbonate of soda in a little hot water.

Bismuth

This drug is principally used in stomach complaints. Doses, to be effective, should be large, up to 30 grains taken in water.

Boracic Acid

This white powder forms a valuable dusting powder for all kinds of wounds. It is strongly antiseptic, and constitutes one of the most efficient forms of dry dressing. The wounds which have been dusted with the powder should of course be covered with cotton-wool or lint. A concentrated solution of boracic acid in water forms an efficient lotion for all wounds or inflamed parts ; it is especially useful in case of the inflammation of the eye. Boracic ointment is another useful antiseptic preparation of equally wide application.

Borax

This substance, either dissolved in water or mixed with glycerine or honey, is used in the treatment of the white-mouth of infants (thrush), or the small ulcers that are often met with on the mucous surfaces of the lips and gums. It should be freely applied to ulcers with a feather or small brush. For thrush, dip a clean soft linen rag in it, and wipe the mouth out.

Calomel

This white powder is in frequent use as a stimulant of the liver and an aperient. The dose varies from 1 grain in the case of an infant to 4 or 5 grains in the case of an adult. It is well when a calomel powder has been taken at night to take a Seidlitz powder or a dose of citrate of magnesia in the morning.

Camphorated Oil

This is a useful application in chest colds, and chronic rheumatism in joints, or old sprains. It should be warmed and rubbed into the part with the hand for 15 to 20 minutes.

Camphorated Spirits of Wine

Useful as an embrocation for sprains, rheumatism, chilblains. Dissolve 1 oz. of camphor in $\frac{1}{2}$ a pint of methylated spirits of wine. Keep well corked down.

Carbolic Acid

This is a substance obtained from coal tar by distillation. Its principal use is as a disinfectant, 1 oz. of carbolic acid shaken up with a pint of cold water being a powerful germicide. As an application to wounds, it should, however, be employed at about half this strength.

Carron Oil

For burns, scalds, etc.

Cascara

This useful aperient is most commonly taken in the form of tabloids; it may also be taken, however, in liquid form. The dose of the dry extract is 2 to 8 grains, and of the liquid extract from $\frac{1}{2}$ to 1 drachm.

Castor-Oil

This is a gentle but efficient purgative. *Dose*: 1 teaspoonful to children, 1 tablespoonful to adults. It is useful in cases of obstinate constipation, or where an indigestible article of diet is giving rise to griping pain.

Citrate of Magnesia

This is the popular name for an effervescing granular preparation containing bicarbonate of soda, tartaric acid, citric acid, sugar and a little Epsom salts. It acts as a mild aperient.

Cod-Liver Oil

This oil, which is obtained from the fresh liver of the cod, is rather a food than a medicine. Now that its odour and taste are efficiently disguised it often forms a valuable form of fat which is tolerated by the most sensitive stomach. It is largely given in cases of consumption as well as in other diseases where there is much wasting.

Compound Decoction of Aloes

This is a useful laxative, its action being principally due to the aloes which it contains. From 1 to 4 tablespoonfuls may be taken in water, the dose being repeated in a few hours.

Compound Liquorice Powder

Compound liquorice powder consists of a sifted mixture of 1 part senna leaves, 1 part liquorice root and 3 parts sugar. It acts as a mild aperient, the dose being 1 to 2 drachms.

Condy's Fluid

The simplest way of making an efficient substitute for Condy's Fluid is to dissolve 4 grains of permanganate of potash in 1 oz. of water. It is a valuable antiseptic lotion, 2 tablespoonfuls of this fluid being mixed with a quart of water; it may then be used for douching purposes or for bathing wounds. It should be remembered that it stains both linen and the skin.

Dill Water

This is frequently given to children during teething, when they appear to suffer from flatulence, or are griped and uncomfortable. *Dose*: 1 teaspoonful to a child 1 year old.

Eau-de-Cologne

For headache, faintness, etc.

Epsom Salts

The dose for an adult is up to $\frac{1}{2}$ oz. They should be taken the first thing in the morning with a warm drink afterwards. Epsom salts are useful in cases of lead-poisoning, or where it is desirable to increase the flow of bile, but are too violent in their action for habitual use in chronic constipation.

Friar's Balsam

Friar's balsam or compound tincture of benzoin is used both externally as an antiseptic application to wounds and internally as an expectorant in chronic bronchitis. In the former case a rag dipped in the tincture is wrapped round the wound, and internally from 20 mm. to 1 drachm is taken in the form of an emulsion with sugar and mucilage or milk.

Grey Powder

This is a mixture of 1 part metallic mercury with 2 parts of chalk. It acts as an antacid and aperient. It is often given to children in doses of 2 to 5 grains, the dose for adults being from 5 to 30 grains.

Iodine

The tincture of iodine is very useful as a counter-irritant and as a help to absorption in the case of chronic swellings. Painted on the gums, it will often relieve toothache ; painted on swollen glands, it will help the swelling to disperse ; painted on such swellings as water on the knee, it will help the water to become absorbed.

Ipecacuanha

Given as powder, 20 grains at a time, it is a useful emetic in the case of adults ; for children, in the form of wine, it is useful for the same purpose in doses of 1 teaspoonful in tepid water, repeated every quarter of an hour, and drinks of tepid water given between, and is often so administered in croup. In bronchitis and bronchial catarrh it may be given to children in doses of 2 to 5 drops every 3 hours on a lump of sugar, and a proportionately larger dose in the case of adults.

Lime-Water

This is a useful preparation to give children with their milk when they are suffering from acidity or diarrhoea. A tablespoonful may be mixed with a wineglassful of milk. In cases of vomiting in adults it is also useful mixed with milk.

Linseed

Linseed is largely employed in the making of poultices (*see* page 175). Linseed tea is a popular domestic remedy for cough and sore throat. It is made by steeping $\frac{1}{2}$ oz. linseed in a pint of boiling water, adding a little sugar and some aromatic substance such as mint or lemon-peel.

Magnesia

This may be given in doses of 20 or 30 grains, in a little milk or water, to an adult, or 5 to 12 grains to those under 12 years. It is very useful in acidity of the stomach.

Methylated Spirit

Disinfectant.

Mustard

A tablespoonful in a tumbler of tepid water is a useful emetic. *See also* Poultices, p. 176.

Oil of Eucalyptus

It is a valuable disinfectant and deodorant, rivals quinine as a remedy for malarial fever, and as a sedative to the bronchial tubes is unrivalled. It may be taken internally on sugar, 3 to 5 drops occasionally for cough; it may be inhaled for bronchitis, or laryngitis, 10 drops in a jug of boiling water and the steam to be inhaled; it may be rubbed into the skin as a disinfectant in scarlet fever and other infectious diseases, made into an ointment with vaseline as a base, and it may be sprinkled lightly about a room as a deodorant.

Permanganate of Potash

is a soluble substance particularly convenient of application and remarkably certain and efficient in its effects as a disinfectant and deodorizer. Its employment is limited mainly to local applications and to general effect upon the atmosphere of contaminated apartments.

Quinine

This is an excellent tonic in cases of debility, and may be given in doses of 1 or 2 grains 3 times a day, dissolved in a little steel-drops or made into pills. It is useful in the same or larger doses in neuralgia, and the combination with steel-drops will materially assist. In ague, given in large doses—8 or 10 grains—it is most useful. (It is also prepared in a more palatable form as *Quinine Wine*.)

Rhubarb

This may be kept in powders in a stoppered bottle, each containing from 10 to 15 grains. One powder given with the same quantity of magnesia in a little water will act as a mild purgative in the case of an adult. It is also useful in dyspepsia.

Salt

Useful emetic.

Seidlitz Powders

Seidlitz powders are usually put up in two papers, the blue paper containing 2 drachms of tartarated soda or Rochelle salt with 40 grains of carbonate of soda, and the white paper containing 37 grains tartaric acid. The contents of the blue paper is dissolved in half a tumbler of cold water, and the contents of the white paper should then be stirred in, and the mixture drunk whilst effervescing. It promotes the action of the kidneys and liver and acts as a purgative. It is specially useful in cases of gout and rheumatism.

Senna Tea

Senna tea is made by pouring $\frac{1}{2}$ pint of boiling water on 1 oz. of senna and $\frac{1}{2}$ drachm of sliced ginger, the mixture being allowed to infuse in a covered vessel for an hour and then strained. The dose is from 1 to 2 fluid ounces.

Spirits of Camphor

Most useful in the case of a bad cold in the head. When first contracted 5 to 8 drops on a lump of sugar 2 or 3 times a day will give great relief and check the course of the cold; and the nasal congestion will be lessened by frequently inhaling the fumes through the nose.

Spirit of Sal Volatile

This is useful as a stimulant in fainting, hysteria, flatulent colic, and after a bite from a venomous animal. *Dose*: 1 teaspoonful in water, for an adult, which may be repeated in 2 or 3 hours.

Sweet Spirit of Nitre

This is useful in cases of fever, and also for certain kidney troubles.

Vaseline

This is a preparation of the heavier portions of petroleum, in a highly concentrated form and greatly refined, all non-essential matter having been removed by careful and exhaustive filtration. It contains no animal or vegetable fats, no chemicals are employed in its manufacture, and it is a mineral product pure and simple. Being tasteless and odourless, it can be taken internally without nausea or other sense of unpleasantness and is of great service for external application, not only in the toilet, but also as a lubricant, emollient and ointment. It has thus a wide sphere of usefulness in the sick-room. Its medicinal preparations are numerous. Pure, it is of value in cough, cold and pulmonary complaint; combined with the concentrated extract of capsicum (Capsicum Vaseline) it acts as a counter-irritant without blistering and can be applied instantaneously; blended with 3 per cent. of carbolic acid (Carbolated Vaseline), it forms an excellent antiseptic dressing for wounds, cuts, barber's itch, bites and stings of insects; mixed with camphor (Camphorated Vaseline), it is an efficient remedy in rheumatism, gout, gathered breasts and piles; with borax (Borated Vaseline), it is a specific in catarrh, and a valuable antiseptic ointment; with menthol (Mentholated Vaseline), it is very serviceable in nervous headache, sore throat, neuralgia, eczema and croup; with oxide of zinc ointment it is healing in eruptions, sores and wounds; Arnicated Vaseline is effective for bruises where the skin is unbroken; Salicylic Vaseline is used for chilblains and offensive-smelling feet, while Vaseline Camphor Ice is very efficacious in sunburn, chapped hands and irritations of the skin. The medicinal forms of vaseline are put up in collapsible tubes of pure tin and are thus kept sanitary and thoroughly sterilized.

Vinegar

For bruises, feverishness, etc.

Yellow Oxide of Mercury Ointment

This is a valuable ointment in many cases of eczema, inflammation of the eyelids, as well as in various other conditions. It may be made by mixing 8 grains of yellow oxide of mercury with 1 oz. of vaseline.

Zinc Ointment

For skin troubles, sores, etc.

THE MEDICINE CHEST

Poisons should always be kept in a compartment by themselves, and the bottles should have some distinguishing features easily recognizable, even in the dark. In spite of this precaution, make it a rule never to go to the medicine chest in the dark, as unless the greatest care is taken, a poison may be administered in place of the required article.

Medicines for internal and external uses must be stored separately, and returned to their respective places after use. Never allow supplies to become exhausted.

In addition to the medicines above enumerated, the Family Medicine Chest or Pannier should contain :—

- 6 Roller bandages 1 in. to 3½ in.
- 2 Triangular bandages.
- 1 Packet of antiseptic gauze.
- 1 Packet of boracic lint.
- 1 Packet of medicated cotton-wool.
- 1 Reel of adhesive tape.
- 1 Pair of scissors.
- 1 Pair of forceps (Spencer Wells).
- 1 Higginson's syringe.
- 1 Glass syringe.
- 1 Tourniquet.
- 1 Clinical thermometer.
- 2 Kidney-shaped dressing bowls (large and small).
- 1 Medicine glass and measure.
- 1 Packet of safety pins.
- 1 Needle and cotton.

THE MEDICAL A. B. C.

CHAPTER IV

The doses of medicine prescribed in these pages are those intended for adults, unless otherwise stated.

Abscess

INFLAMMATION ending in the formation of matter which has to be discharged either by breaking through the skin or being let out by an incision. May occur in any part of the body. Should be ripened by poulticing or fomenting. When the abscess "points," or earlier in most cases, an incision should be made by a doctor in the softest spot, and the matter evacuated.

Accidents

(See Burns, Scalds, Bruises, Sprains, Dislocations, Fractures, Choking, Drowning, Fits, etc.)

Removal of Persons Injured by Accidents.—Accidents are often rendered more painful and more severe by the awkward manner in which, with the best intentions, the sufferer is carried with the limbs dangling or rolling about. There is generally little difficulty in finding out a fracture of the leg, thigh, forearm, or upper-arm, especially if it be at or near the middle of the bone, because not merely is the sufferer incapable of lifting up the limb, but in an attempt to do so there will be an unnatural bending and grating motion at the injured part. In many cases of fracture the signs are not so evident, particularly when in the neighbourhood of a joint. A person who has broken his arm, either above or below the elbow, will find it least painful to place the forearm at right angles with the upper-arm, in a broad sling, which will contain it from the elbow to the points of the fingers; and, should he not have far to go, he will find that walking will cause much less pain and

shaking than conveyance in a carriage of any kind. If the leg or thigh is broken, a hurdle, door, or shutter, covered with straw, coats, or blankets, may be converted into an excellent stretcher, which should be laid down by the side of the sufferer, who should be gently and quickly lifted or slid on it, by as many persons as are sufficient to raise him up a very little from the ground, and by no more, as the greater the number of assistants, the less likely are they to act together efficiently. The shutter or hurdle should be carried by hand, two persons at each end taking hold of it and all marching in broken steps as they move along. If a couple of poles can be procured and fixed across beneath each end of the hurdle, the bearers will carry with less fatigue both to themselves and the patient. If no shutter or hurdle can be obtained, a good substitute will be made by fastening four stout poles together and tying a blanket securely to them, so as to resemble the frame and sacking of a bedstead, and upon this the injured person can be laid. Hand carriage in either of these ways is infinitely easier than being moved in a vehicle, for every jolt produces motion in the broken bone and a proportionate degree of pain. Before placing the person on the hurdle, shutter, or blanket, it is a good plan to bring the sound limb close to the broken one and tie them firmly with two or three handkerchiefs; this will give great support to the injured limb and prevent any unnecessary movement. Besides this, a pillow or long pad of straw should be placed on the outside of the limb to render it steady. In placing the limb, great care should always be taken to lay the broken part as nearly as possible in its natural position; for, if this is not attended to, and the broken part is left bent, it is not improbable that an end of the bone will be thrust through the skin, constituting a compound fracture and thereby greatly increasing the mischief.

Acetic Acid Poisoning

(See Poisons.)

Acidity

Give equal parts of lime-water and milk; or 10 to 20 grains of magnesia may be given in a little milk 3 times a day. The following mixture is useful in this affection: bicarbonate of soda, 3 drachms; subnitrate of bismuth, 2 drachms; water, 8 oz. Shake the bottle, and take 1 tablespoonful 3 times a day.

Acne

(See Blackheads.)

Aconite Poisoning

(See Poisons.)

Adenoids

At the back of the nose and above the uvula the tissue of the roof of the throat is often, especially among children, overgrown and thickened, so that little warty masses hang down, almost blocking up the back of the nostrils. As a consequence there is almost always a nasal catarrh, snoring during sleep, and loud breathing at all times, a nasal voice more or less, and usually an increasing denseness of intellect. The affection is an extremely common one, especially among children who are placed among unhealthy conditions, though it is by no means confined to such. A child so affected does not get on either physically or mentally, and its face acquires an increasing look of stupidity, partly owing to the necessity of keeping its mouth open, and partly owing to mental change. If the case is neglected the mental dullness becomes permanent, and incurable ear diseases and deafness may also result. Seeing that adenoids are easily cured by a simple operation, no time should be lost in taking the child to a surgeon. After the adenoids have been removed it is of great importance to correct the bad habit of mouth-breathing which has been acquired, and to develop proper nose-breathing in its place. The principal points have been summarized as follows:—

1. Teach the child to clear the nose by blowing freely and frequently, and discourage sniffing and snuffing. To excite interest select a "picture" handkerchief for young children.

2. Direct the child to breathe in and out through the nose while the mouth is tightly closed.

3. Where convenient adopt drilling and gymnastics, calculated to develop chest expansion. Insist on all these exercises being performed with closed lips.

4. Encourage running, jumping, skipping, and all exercises which expand the chest, always with closed lips.

5. Be sure that the nose is "quite clear" at all times, especially at bedtime; use the "nose wash" if any discharge and consult the doctor.

6. Encourage singing and reading aloud.

Ague

Give 4 or 5 grains of sulphate of quinine every 4 hours during the interval of the fit.

Air-Sickness

(See Sea-sickness.)

Alcoholism

The first and most important step in the treatment of alcoholism is, as Dr. Kerr advises, the unconditional disuse of all alcoholic intoxicants. "Tapering off" is inadmissible with alcohol, though generally the better course with opiates. It is judicious to give the patient something to take instead of the intoxicant, simply on account of the effect of long-continued habit which has a strong tendency to stamp an impression of itself on the brain so distinct as to cause that organ automatically to direct any action which has been frequently repeated. Hot water is better for this purpose than anything else, plain or flavoured with a little lemon or lime juice, or cinnamon, or ginger. Cold water suits other chronic alcoholics better. Others are better served by coffee, weak tea, cocoa, milk, etc. In a few days the number of drinks can be rapidly diminished, these substitutionary draughts, not always required, being more for the temporary relief of discomfort than from imperative need. At first milk and soda should form the chief part of the dietary. As the sickness diminishes, concentrated albuminoid food, broths, and light farinaceous diet should be gradually supplied, followed by some variety of white fish such as sole, whiting, haddock, cod or plaice, then white meats, and lastly a return to ordinary diet.

For all classes of patients and for all the varying forms of the disease, cleanliness with muscular and mental exercise, after a transient period of rest, come next to abstinence. After the system is freed from alcohol and its sequelæ, the recovered muscular energy is so great that, especially with males, it is best directed into a safe channel by hours of walking exercise, or by hard manual work in carpentering or at the lathe. But after a shorter or longer period this intense accumulated muscle-energy is quieted down to a steady supply. So with brain-force. In the advanced stage of revived regular normal body and brain capacity systematic exercise of body

and brain is essential to the permanent soundness of both. Alike for rich and poor, it is of the first importance that they do not lead an idle life, the old proverb being true, that "the devil tempts a busy man, but the idle man tempts the devil." The methodical occupying of the mind with the performance of daily duties is the only effectual means of withdrawing the inebriate from his morbid brooding over his misdeeds and miseries, thus powerfully aiding in making him once more "a whole man" in fair possession of self-restraint.

Alkalies (Poison)

(See Poisons.)

Alopecia

Circular patches of baldness which appear without apparent cause.

A good routine treatment for alopecia consists in shampooing the bald patches with warm water and with the following lotion:—

Bicarbonate of Soda	.	.	.	.	.	.	1 oz.
Soap	.	.	.	.	.	.	2½ "
Rose water	.	.	.	.	.	.	5 "

Next wash the scalp with plain water and dry in a towel. Compresses soaked in the following lotion (perchloride of mercury, 5 grains, liquid phenol, 10 grains, water to 5 oz.) should then be applied for half an hour, after which the hair should be dried and the scalp rubbed with a 1 in 400 solution of thymol in alcohol. Finally, rub in a little of the following ointment:—Salicylic acid, 1½ grains, Compound Tincture of Benzoin, ½ drachm, Oil of Bergamot, 15 minims, Olive-Oil, 10 oz.

Ammonia Poisoning

(See Poisons—*Alkaline*.)

Anæmia

This is a condition in which there is an impoverished state of the blood, the red cells being deficient in quantity and quality, the blood becoming more watery than in health. It arises under conditions in which the individual is deprived of the materials necessary for the making of good blood, as, for example, when the food supplied is insufficient in amount or

kind, or the greater part of the day is spent in close, badly-ventilated workshops. It also arises in the course of exhausting diseases, and through excessive study and insufficient physical exercise. One of the commonest causes of anæmia is indigestion, due to incomplete mastication of food caused by bad teeth, and by absorption of the discharges from rotten and decayed stumps.

Symptoms.—A pale appearance of the skin and mucous membranes; the lips and gums lose the rosy look of health, and become of a delicate pink colour; exertion is difficult, and going upstairs or climbing a height out of doors gives rise to breathlessness. Palpitation of the heart, headache, pain in the back, and in the left side, are frequently complained of; failure of physical and mental energy. Obstinate constipation is nearly always a prominent symptom.

Treatment.—Remove the patient, if possible, from all influences that tend to injure the health. Have the teeth attended to, and if necessary artificial teeth supplied. Well-ventilated rooms and workshops with plenty of light are desirable. A moderate amount of exercise in the open air is helpful in giving tone to the system. Change of air from the town to the country, or more particularly, to the seaside, is often beneficial, and cold sponging, especially with salt water, also is helpful. The diet should be plain and nourishing, and a moderate amount of animal food should be taken. In ordinary circumstances there is no necessity for stimulants. In regard to medicines, the one thing needful is iron. This may be given in the form of steel-drops, 10 to 20 drops 3 times a day. Aloes may be given with iron in the form of a pill; or as a mixture for the constipation, salines or a dose of cascara daily may be substituted.

Anæsthetics

are drugs employed in major and minor operations for the purpose of producing insensibility to pain, and may only be administered by qualified medical practitioners. They are of two sorts, general and local. The action of the former is to render the patient altogether unconscious, whilst that of the latter is to deaden the sense of pain in the part, the patient remaining otherwise conscious. Recently there have been introduced certain anæsthetics such as evipan, trilene and cyclopropane, which are less dangerous than the old chloro-

form and ether. It is now customary to give the patient an injection of a sedative drug such as soneryl or nembutal a short time before the actual anæsthetic is started. This premedication makes the patient much less sensitive to the induction of the main anæsthetic so that it is scarcely noticed. The practice is to employ an anæsthetist to administer the general anæsthetics, leaving the surgeon entirely free to carry out the operation. Every care is used to examine the fitness of the patient to undergo the drug, and it will depend upon the condition of the heart and other organs which anæsthetic is employed.

Aneurism

An aneurism is a localized bulging of a blood-vessel, due to either disease or injury to the wall of the artery. A similar condition may often be seen in an old garden hose-pipe. The wall of a healthy artery is very elastic and readily yields to increased blood pressure, recovering its natural size as soon as the pressure is diminished. When, however, from any cause the elasticity of the artery wall is lessened, then the wall readily yields to even ordinary blood pressure, and much more readily when the blood pressure is from any cause increased. Of all the conditions which weaken the arterial wall, the commonest is probably syphilis, and next to that, atheroma, with fatty degeneration. In this condition the wall of the artery becomes thicker, but weaker and less elastic. Aneurism may also result as a consequence of loss of support by removal or disease of the tissues surrounding an artery; thus in consumption where the lung tissue around an artery becomes destroyed, aneurisms are not uncommon. Many cases again may be traced to strain or to local injury. There is no doubt that the habitual use of alcohol, other than in the most moderate quantities, strongly predisposes to aneurism. This condition is so serious that its treatment should never be undertaken except by skilled persons; domestic remedies are quite useless.

Angina Pectoris

Angina pectoris is, fortunately, not a very common disease, as its principal symptom consists of agonizing pain in the region of the heart, with a sensation of impending death. The condition is nearly always associated with some disease of the heart or some unusual condition of the blood-vessels which

supply the walls of the heart. The paroxysm usually comes on during some exertion or great mental emotion; the patient feels as if his heart had been seized in a vice. The face becomes ashy pale and covered with perspiration. The attack usually lasts less than two minutes, though the patient may drop dead. Those who suffer from this should lead healthy lives, avoiding exertion and excitement; they should always carry one or two capsules containing 4 or 5 drops of nitrite of amyl, and during the attack one should be broken in a handkerchief and the vapour inhaled.

Anthrax

Anthrax is an infectious disease widespread among animals, especially among sheep and cattle. It occurs in man as a result of absorption of the poison containing the specific bacillus. The disease occurs in various forms, these being classed into two groups, internal anthrax and external anthrax. The principal form of external anthrax is that named malignant pustule. At the site of the inoculation pain and irritation appear within a few hours, a pimple develops, and this soon becomes a vesicle. Local inflammation with considerable swelling follows, there is usually very high fever, and in bad cases death occurs in from 3 to 4 days. The two principal forms of internal anthrax are the intestinal form, in which the disease is contracted by eating the meat or drinking the milk of diseased animals, and the form known as wool-sorter's disease. In the former the symptoms much resemble those of ordinary irritant poison, vomiting, diarrhoea, and fever being the symptoms most marked. Wool-sorter's disease is contracted by swallowing or inhaling dust from hair or wool obtained from animals suffering from anthrax. The victim becomes seized with pains in the back and legs, extreme prostration, rapid breathing, and rise of temperature. Death usually occurs within 24 hours. Anthrax is found only in persons who work among animals or animal products, shepherds, butchers, tanners and wool-sorters being the chief persons attacked. In the way of treatment the important thing in the case of external anthrax is to destroy the site of inoculation by means of surgery and the use of penicillin and anti-serum. Owing to the mechanical purification of imported wool this disease is now very rare.

Ant Bites

(See Insect Bites.)

Antiseptics

Antiseptic treatment, in its most comprehensive sense, aims at purifying everything connected with an operation, or with cases. Every instrument, dressing, application, sponge, the surrounding atmosphere, the operating table, the nurses and the surgeons, and even the operation itself are all exposed to antiseptics in some form or another. The principle justifying the treatment is the exclusion of bacteria and germs, the appearance of which in wounds might set up putrefaction and blood-poisoning. Carbolic acid, boracic acid, lysol, iodine, izal, picric acid, thymol, eucalyptol, and corrosive sublimate are all largely used. Antiseptics are also of great practical value in safeguarding the public health. They are constantly employed in street cleansing, the removal of offensive matter, the maintenance of urinals and water-closets and in many other sanitary processes. They are also used as deodorants. (See also Disinfectants.)

Apoplexy

Causes.—The cause of apoplexy is the rupture of a blood-vessel in the brain, due to a weakening of the artery caused by high blood pressure, viz. *cerebral hæmorrhage*.

Whatever operates in determining a great quantity of blood to the head, or in impeding a free return of it, may produce excessive distension or effusion within the cranium, and be, therefore, reckoned as exciting causes; such as violent passions of the mind, immoderate exercise, intense study, fits of intemperance, excessive straining, ligatures about the neck, the suppression of accustomed evacuations, piles, the unrestrained indulgence of the appetites, and exposure to sudden great heat or excessive cold. This disease may happen at any age, but is most frequent about the middle or in the decline of life, especially in persons of a plethoric habit, who have short, thick necks, and who are indolent, and indulge much in eating and drinking.

Symptoms.—In apoplexy a person, apparently in good health, is seized suddenly, perhaps in his bed, unconsciously,

whilst asleep ; or he falls suddenly back when sitting in his chair, not unfrequently whilst at his meals, or soon after his dinner ; or he falls as suddenly to the ground when walking or riding, in a state of perfect insensibility : if not instantly deprived of life, which is sometimes the case, he lies motionless and powerless, with stertorous, or noisy, breathing, sometimes with eyes partly closed, but oftener staring or protruding, and his face and neck livid and swollen. This state is distinguishable from epilepsy by the absence of convulsions and contortions of the body, by a full and slow state of the pulse, and the noisy breathing. The patient is insensible to noises, incapable of motion, and the pupil of the eye, which is usually much dilated, does not contract when exposed suddenly to a very strong light. The condition of the patient very much resembles the temporary annihilation of sense and motion in helpless intoxication, from which, indeed, it is sometimes very difficult to distinguish it, when information on this point is not attainable from his companions. It may, however, here be observed that the pulse in a drunken man is often quick, and never preternaturally slow ; and that the smell of the breath, and the nature of the matter brought off the stomach—for sickness usually attends this stage of intoxication—will often reveal the cause of his insensibility. Let it, however, be remembered that when intoxication proves fatal, it is often by inducing apoplexy. A patient generally has some warning before a fit supervenes : headache, sickness, and giddiness coming on in advanced life are threatening symptoms ; or there may be double vision, or squint, or numbness of a limb, and the familiar sensation of pins and needles ; in other cases, loss of memory and mistaken use of words are signs of the approaching attack. The duration of a fit of apoplexy is various ; but it generally lasts from 8 to 24 hours, and occasionally to 36 hours, or even longer. There are two varieties of apoplexy, which are in general clearly marked, the one attended by a hard, full pulse, flushed countenance, and stertorous breathing ; the other by a feeble pulse and pale countenance. The former usually occurs in persons of a full plethoric habit and who have considerable energy and strength ; the latter, for the most part, in the old, phlegmatic and feeble.

Generally speaking, the latter form of the disease is the more dangerous, since, from the general failure of the energies of

life, nature has less ability to assist us in the use of remedial measures. In any other point of view, the degree of danger will be generally measured by the violence of the symptoms. In general, the shorter the fit, the more favourable the prognosis. It is very doubtful whether the sudden deaths we so frequently hear of ought to be ascribed, as is common, to apoplectic seizure, since genuine apoplexy very seldom destroys life in less than two hours. They appear to depend rather upon some violent affection of the heart or stomach, or upon the rupture of some blood-vessel larger than those of the brain.

Treatment.—The treatment of this disease must obviously vary with the pathological condition of the brain, on which it depends. The skill of the physician consists in detecting what that pathological condition is, and in exactly adopting his remedies to it, which must differ widely according as he is called to treat a threatening or an actual paroxysm, or to prescribe for a patient subsequent to an attack. It is not necessary to enter into a discussion of the different remedies suited to the manifold states of the brain and of the system in the various forms and stages of this malady.

It is only necessary to add that whenever a person is seized with a fit of apoplexy, he should be carried into a large room, the freest possible circulation of fresh air should be promoted round the body, which should be placed in the horizontal position, with the head, however, slightly raised. Everything should be loosened from round the neck, and a doctor sent for instantly. Every observer of such a case should bear in mind that the loss of life may be the consequence of the loss of a minute.

Under no circumstances whatever should anything, not even a drop of water, be given by the mouth. Alcohol is especially harmful.

Appendicitis

At the commencement of the large intestine there is a small blind offshoot of gut about 4 inches long, called the vermiform appendix. Inflammation of the vermiform appendix, or appendicitis, is not an uncommon disease; it is, however, more frequently met with in children and young adults.

Causes.—Since the lumen of the appendix is small it may readily become blocked by a faecal concretion or by a foreign

body, cherry stone, etc. These, by pressure on the walls of the appendix, and by stopping the exit of the mucus secreted in it, set up inflammation. Over-eating, constipation and indigestion and a sudden chill, are common factors in its causation.

Symptoms.—The sudden onset of pain in the abdomen usually accompanied by vomiting. The pain is often at first in the centre of the abdomen, but settles down to the right side.

Treatment.—The patient should be put to bed and hot flannels applied to the painful side. The diet should be entirely fluid. Medical assistance must be obtained at once, since many cases progress very rapidly, and early surgical treatment is essential.

Appetite, Failure of

Loss of appetite, accompanied by constipation of the bowels, pain in the stomach, especially a feeling of fullness at the pit of the stomach after eating, with broken and unrefreshing sleep, calls for regular outdoor exercise, the avoidance of tea, cake, pastry, and alcohol, and the regulation of the bowels by means of an aloes pill.

Aquafortis

(See Poisons—*Nitric Acid*.)

Arnica Lotion

(See Lotions.)

Arsenic Poisoning

(See Poisons.)

Artificial Respiration

(See Drowning.)

Ascites

Ascites is the name given to dropsy of the peritoneum. This may result from various diseases of the liver, especially cirrhosis and cancer, or as a consequence of advanced heart disease, or from chronic peritonitis. As a consequence the abdomen becomes enlarged, often to an enormous extent, and as the fluid increases in quantity breathing is affected owing

to the pressure on the diaphragm. The condition is always a very serious one, and its treatment should be left entirely to skilled hands. The line of treatment will naturally vary according to the cause, and to the general conditions.

Asthma

Asthma is a nervous disease, depending upon contraction of the muscular fibres surrounding the bronchial tubes. Occasionally it is connected with malformation of the heart, or an unnatural conformation of the chest. Usually in children, it tends to pass off. In adults there may be some local cause, otherwise it is said to be due to sensitivity to foreign protein either in the air (e.g. pollen) or food. It often runs in families.

Symptoms.—Hurried, oppressed and noisy breathing, coming on in paroxysms, and leaving the patient comparatively well in the intervals; although in some cases there may be observed wheezing and a more confined dilation of the chest than is natural in inspiration. In a typical asthmatic attack, the patient wakes up in the small hours of the morning with a sensation of suffocation; the difficulty of breathing continues, and a terrible struggle begins. He sits up in bed, or gets up and goes to the window, where he stands struggling for breath. The wheezing is attended with successional coughing, and at length the expectoration of some viscid phlegm gives him great relief; he breathes tolerably easily for a while, and after a little more coughing and expectoration the paroxysm ends. A peculiar state of the atmosphere is an exciting cause; damp, foggy weather will induce it in some, a north-east wind in others; some asthmatics are liable to attacks while spending a single night in a large town; others enjoy freedom from attacks while similarly circumstanced. A single indigestible meal, particularly a heavy supper, is another exciting cause.

Treatment.—Avoid causative protein (if this is known), particularly indigestible articles of diet. During the attack, if there is reason to believe that the stomach is at fault, an antispasmodic mixture (e.g. Belladonna) may be given to an adult. Temporary relief may be obtained by the patient taking a few whiffs from a pipe of tobacco or stramonium. Ephedrine tablets gr. $\frac{1}{2}$ three times daily are beneficial. The general health of the patient should be carefully attended to

Change of air is often beneficial, and so are such tonics as cold sponging and the shower-bath, when there is no other reason to prevent their employment.

Baldness

This may be due to impaired nutrition in the scalp, or to a scurfy condition of the skin. In the first case a stimulating lotion should be used. 3 drachms of tincture of cantharides, 6 drachms of tincture of quinine, 4 drachms of sal volatile and water to 8 oz. Apply to the roots of the hair. If the head is scurfy use as a shampoo a mixture of soft soap 3 parts and eau-de-Cologne 1 part. If the scurf persists, it is probably due to a complaint called seborrhœa, which will require skilled attention.

Bandaging

We need only mention here a few simple bandages that could be applied by a non-professional nurse. Every one should know how to roll a bandage. The great knack of rolling it is to get it perfectly tight and even. The first few turns can be taken round a knitting needle, which should then be withdrawn.

In cases of broken bones send at once for the doctor, but pending his arrival do not move the patient unless splints have been applied to the injured part.

A bandage for a finger would be from half an inch to an inch wide. To apply it, one or two turns round the wrist should be taken first, from under to over, then the bandage should be brought along the back of the hand and wound spirally down the finger from the tip, wound down to the root, crossed over the back of the hand, passed twice round the wrist, and the two ends tied together.

In bandaging a wrist, begin by placing the end in the palm of the hand; pass the roll over the thumb-joint, thence once completely around the hand above the thumb (thus holding the end firmly in position), then wind it closely up and up the wrist and arm, making reverses with the finger as the arm gets thicker.

Bandages for the Head.—The bandage most frequently applied is a simple head bandage, consisting of a couple of turns round the forehead and occiput, and to prevent these

from slipping a turn under the chin is taken and the ends knotted over the place where pressure is required.

As an application for a simple fractured jaw the four-tailed bandage is considered very efficient. All that is required is a strip of calico 4 inches wide and about 1 yard long ; split each end into two, leaving about 7 inches in the middle of the bandage undivided, in the middle of which make a short longitudinal slit into which the point of the chin is placed. The two lower tails are tied on top of the head and the two upper ones behind the back of the head. To prevent slipping the upper and lower tails are tied together.

The Capeline bandage is the one generally employed for keeping dressings on the head or for pressure on the scalp. Two bandages are knotted together and the knot placed just under the external occipital protuberance ; they are then drawn round to the centre of the forehead and twisted on themselves, one being carried straight back over the top of the head, and the other continued round to the back of the head to fasten this one down. This is repeated till the entire scalp is covered. (*See also Elastic Bandages*).

Sling for an Arm.—A ready sling for an injured arm can be made from a large handkerchief or neck muffler, by folding it into a triangle, passing it under the arm, and tying the two ends into a reef knot at the back of the neck or on the shoulder. The apex of the triangle should then be brought around the elbow and pinned.

Care should be taken in arranging this or any sling that it gives the required support to the arm, and cannot slip or give way.

If the sling is to support the hand, the part of the triangle that goes in front of the hand should be passed over the shoulder on the side of the neck opposite to the injured limb. If it is intended to support the elbow (as in the case of a fractured collar-bone), the reverse should be the case, the outer part of the sling passing over the shoulder on the same side as the elbow that is to be supported. The sling should always be arranged so that the hand is raised a little above the level of the elbow.

Splints for a Broken Leg.—In cases of emergency, umbrellas, walking sticks, or broom sticks make excellent splints. Tie one of these to the side of the limb by a handkerchief and bandage above and below the seat of fracture.

Barber's Itch, or Sycosis

An affection of the hairy parts of the face, and particularly the chin, the disease sometimes also involving the eyebrows, eyelashes and other parts of the person. It is often due to a foul shaving-brush or razor, whence its popular name. It is caused by microbic infection. Papules form round the hairs and develop into pustules, each pierced by a hair. As the inflammatory process advances the hairs become loose and fall out, a drop or two of pus following each. As the pus dries, brown or yellow crusts form. The disease is infectious, spreading from one follicle of hair to another. The sufferer must be patient, as sycosis may be very obstinate. The treatment consists in removing the crusts with bread-and-water poultices, extracting the hairs over the whole of the affected area (they are all diseased) and applying soothing and anti-parasitic remedies. Sir Malcolm Morris recommends oleate of mercury (1 to 2 per cent.), or weak sulphur ointment in mild cases and resorcin ointment (2 to 10 per cent.) in severer. Carbulated vaseline is an excellent antiseptic dressing that can readily be applied. Penicillin cream is now used quite a lot. Cleanse shaving brush after use and do not permit its use by others. For some time after apparent cure shavers should use a 1 in 1,000 bichloride of mercury solution in their lather water, and apply pure lanolin to the face every night.

Barytes Poisoning

(See Poisons.)

Baths

(See p. 20.)

Bed Sores

are much more easily prevented than cured. All patients who have to remain in bed for a considerable time should have their backs attended to at least once a day. The skin exposed to pressure must be kept dry and, after cleansing with soap and water, methylated spirit should be applied, and the area of skin should then be dusted over with boracic powder. If sores occur, clean them thoroughly with carbolic lotion 1 part in 40 of water, and then apply zinc oxide ointment. By means of a ring-shaped pad avoid pressure on the affected part.

Bee Stings

(See Stings.)

Belladonna Poisoning

(See Poisons.)

Bell's Palsy

Bell's Palsy, or paralysis of the facial nerve, may be due to certain lesions of the brain, but it is more commonly the result of certain injuries or affections of the nerve after it has left the skull. Exposure to cold is the most common cause of facial paralysis, the paralysis in this case being due to an inflammation of the nerve. The symptoms are very striking. The face on the affected side is motionless, the muscles being unmovable by effort of will and remaining motionless in the presence of emotion. The skin becomes smooth and all wrinkles are effaced; the lower eyelid drops and the eye remains open. The corner of the mouth on the affected side is lowered and liquid usually runs from the mouth in the act of drinking. The patient is able to laugh or smile on one side of the face only; speaking is usually to some extent interfered with, and there is some difficulty in masticating the food; there is not, as a rule, any pain. The majority of these cases recover in the course of a few weeks, though of course, when the trouble is due to the brain, the outlook is much more serious. When the paralysis is brought on by cold, hot flannels or bran bags should be continuously applied; after a few days the muscles on the affected side should be massaged.

Bilious Attacks

A bilious attack being essentially a digestive disorder, the process of digestion being practically arrested for the time, and the appetite completely lost, the first principle of rational treatment consists in entire abstinence from food. The lining wall of the stomach becomes covered with mucus, and the micro-organisms which cause or accompany fermentation are very active. It is therefore important to take steps to wash out the stomach by taking large draughts of water or soda-water, to get rid of the undigested fermenting material by means of purgatives, and to control the processes of fermentation by means of antiseptics. The following pill may be taken at night: pil. hydrarg., 3 grains; ext. aloes, 1 grain; ext. hyos-

cyam, 1 grain. This should be followed the next morning by a Seidlitz powder or a drachm or two of Epsom salts. No alcohol in any form should be taken. If the patient is willing to rest, to take no food whatever, to drink a couple of quarts of water or soda-water in the day, and to take the pill and saline draught advised above, a bilious attack in most cases passes off in 24 hours or less. Indeed, by adopting the treatment when the attack is threatened and before it has actually developed, the more unpleasant symptoms may generally be avoided altogether.

Bites

(See Dog Bites, Insect Bites, Snake Bites and Stings.)

Blackheads or Acne

The constitutional treatment of acne should not be neglected; greasy and fatty foods, as well as cheese, pastry, sweets, pickles and tea, should be avoided. Starchy foods, such as bread and potatoes, should only be taken in moderate quantities. The face should be scrubbed with hot water and soap every day, and the contents of the spots should be squeezed out every night. The following lotion may be well rubbed into the skin at bedtime :—

Zinc Sulphate	$\frac{1}{2}$ drachm.
Precipitated Sulphur	$\frac{1}{2}$ "
Potas Sulphurat	I "
Water to	4 ounces.

When the skin peels as a result of this lotion, a little carbolic acid ointment may be applied. If the condition is obstinate, a doctor should be consulted with regard to vaccine treatment.

Bladder Trouble

Symptoms.—The symptoms of inflammation of the bladder are great pain in the groins and lower part of the back, also tenderness over the bladder. There is very frequent desire to pass water, attended with great efforts to do so; a whitish ropy mucus is deposited in the urine, accompanied with feverish symptoms.

Treatment.—Hot baths and hot fomentations should be applied, with the administration of calomel and castor-oil to relieve the abdominal circulation. The pain may be allayed by opium or morphia, either internally, or as a suppository,

and copious draughts of bicarbonate of potash and lemon-juice. The diet should be simple and consist mostly of bland farinaceous food. No stimulants whatever must be given. So long as the symptoms remain severe the patient must keep in bed. The doctor should be called in, if only because the emptying of the bladder with a catheter affords marked relief, while the washing-out of the organ with an antiseptic soothing solution promotes cure.

Irritability of the Bladder.—The distressing condition of irritability is of not infrequent occurrence. If allowed to go unrelieved, it may seriously impair the general health by the continual disturbance of rest to which it gives rise. Much relief will be afforded to those who suffer from this affection by the free use of barley-water as a drink, and by taking, at bedtime, a pill composed of 3 grains of the extract of henbane and 2 grains of extract of gentian. Other means may be employed, but should these fail medical advice had better be sought. Mild laxatives must be administered from time to time, so as to keep the bowels acting freely.

Bleeding

(See Hæmorrhage.)

Blisters, to Apply

Wash the skin with soap and water, warm the blister at the fire and lay it on, leaving it there for 7 hours or more till it rises. Snip the blister then formed with sharp-pointed scissors to let the water out, then dress with boracic ointment spread upon lint. The ointment should always be spread on the smooth surface of the lint.

Blood Poisoning

may be caused by a dirty wound, insect bites or stings, etc.

Symptoms.—Inflammation, swelling and throbbing pain.

Treatment.—Medical advice should be sought at once.

Boils

Brush tincture or liniment of belladonna over them before they are broken, to cause them to abort; this may be done night and morning. If very painful, use hot boracic fomentations, and treat as an ordinary abscess.

Bones, Broken

(See Fractures, Accidents and Bandaging.)

Boracic Fomentations

(See Fomentations.)

Boroglyceride Fomentations

(See Fomentations.)

Brain, Concussion of

(See Concussion of the Brain.)

Bran Poultice

(See Poultices.)

Bread Poultices

(See Poultices.)

Breasts, Care of

(See page 241.)

Breath, Foul

(See Foul Breath.)

Bright's Disease

This is a name applied to several inflammatory affections of the kidneys, generally associated with a quantity of albumen in the urine, and often with dropsy. It may be either acute or chronic.

Causes.—Acute Bright's disease may occur from cold, from a blow, from taking substances such as turpentine or cantharides, which irritate the kidneys, but more usually it follows some acute febrile disturbance, and more especially scarlet fever.

Symptoms.—Cold shivers, headache, pain in the back, often sickness. The temperature is raised, and the amount of urine excreted is diminished or almost suppressed, is occasionally bloody, and coagulable. Dropsy is often a secondary disorder.

Treatment.—The nightly hot bath and purgative treatment are no longer recommended in the treatment of Acute Bright's disease. Rest in bed in a warm room is most important, nor

should the patient think of leaving the room until all the dropsy and acute symptoms have subsided. Light nourishing fluid diet may be given for two days, as bread and milk, broth, veal tea, rice pudding, arrowroot, and gruel, gradually increasing afterwards. During convalescence great care must be taken to avoid cold, and flannel should be worn next the skin. Tonics containing iron and quinine are useful.

In *Chronic Bright's Disease*, even if an unskilled person were able to detect it, little if anything of practical use can be done except under medical direction.

Bronchiectasis

Bronchiectasis is a condition in which the bronchial tubes have become permanently dilated, and as a consequence have lost much of their elasticity. Resulting from inflammation of the bronchial tubes, the walls usually become weakened and are thereby less able to resist the pressure of the air in severe attacks of coughing; consequently bronchiectasis frequently occurs among those who suffer from chronic bronchitis or phthisis. The symptoms are very much those of the bronchitis or other disease to which dilatation is due. Usually the cough occurs in paroxysms, in many cases there being no cough throughout the greater part of the day, but severe and long continued fits of coughing in the morning and evening. The expectoration is usually considerable, and often very offensive. Operation is called for in some cases. In others postural drainage, i.e. lying on one side for $\frac{1}{2}$ hr. three times a day and coughing up as much phlegm as possible, gives relief. Penicillin is sometimes useful.

Bronchitis

This is an inflammatory disease of the lining membrane of the bronchial tubes. It may be acute or chronic.

Symptoms.—Acute bronchitis is very liable to attack persons in the winter, and during the prevalence of east or north-east winds. It begins like an ordinary cold, succeeded by a feeling of chilliness and aching pains in the limbs. The patient is thirsty and feverish, with languor and headache, loss of appetite and restlessness; there is an uneasy feeling of soreness behind the breast-bone. At first there is a dry, hacking

cough, and very little phlegm is brought up; in 2 or 3 days the cough becomes looser, and the expectoration is more abundant. Wheezing sounds are heard in the air passages.

Treatment.—When the chilly feeling is experienced, the patient should go to bed and keep there till he is warm again; in this way an attack may be checked in a short time. The air should be warm and for this purpose a fire should be lighted and the temperature kept at about 60° Fahr. A *bronchitis kettle* of boiling water placed on the fire, and the steam allowed to pass into the room, will help to keep the air moist. Inhalations of steam are very soothing, and may be obtained through an inhaler, or by holding the face over a jug of boiling water and wrapping a towel round the head and jug so as to prevent the escape of the steam. The inhalations may be medicated by the addition of a few drops of Eucalyptus oil, Terebene, or compound Tincture of Benzoin, to the boiling water. A warm bath before going to bed is also useful, as it encourages free perspiration. A hot linseed-meal poultice may be placed on the chest, and renewed every few hours if necessary. A piece of gutta-percha tissue may be placed over the poultice to prevent the moisture from wetting the clothes. Rubbing the front of the chest with turpentine liniment often gives great relief. Turpentine stupes (cloths steeped in hot water, wrung nearly dry, and made irritant by moistening with a few drops of some volatile liquid) and sinapisms (mustard plasters) may be useful, should milder measures fail to give relief. A mixture such as the following may be given: ipecacuanha wine, 2 drachms; concentrated infusion of senega, 1 oz.; water to make 8 oz.; a tablespoonful to be taken every 3 or 4 hours. Should the case be one in which stimulation seems necessary, as in old or debilitated subjects, carbonate of ammonia may be given with advantage in doses of 3 to 5 grains. A drachm to a drachm and a half added to the above mixture would answer very well. 5 to 10 drops of ipecacuanha wine mixed with 30 drops of syrup of squills and a teaspoonful of glycerine every 4 hours, is also useful. In children, this disease is at all times to be regarded gravely. The above treatment should be adopted with the modifications necessary to the child's age, and the avoidance of turpentine stupes and mustard plasters unless ordered by a medical practitioner. The diet should consist of milk, beef-tea, veal-broth, and a little arrowroot or cornflour.

Bronchitis, Chronic

This is a very common disease, and is very prevalent during winter, causing considerable mortality. It is most usually met with in middle-aged or old people. Cough, shortness of breath and expectoration are the three most constant symptoms of chronic bronchitis. This disease may occur as a consequence of old age merely, or it may come on as a sequel to an attack of acute bronchitis. Taxi-drivers, porters, costermongers, tram drivers and conductors, and others whose occupation exposes them to all kinds of bad weather, are extremely subject to it.

Treatment.—Remove the sufferer to a warmer climate for the winter and spring, if possible. If this is out of the question, the treatment must be directed to avoiding, as much as possible, any exposure to cold, or any of the exciting causes of the disease. For those who are engaged in outdoor occupations, and exposed to all the inclemency of the weather, but little can be done to alleviate any distressing symptoms that may arise. Thick boots should be worn, clothes must always be changed when wet, and the patient should be told to breathe through the nose. He should be out as seldom as possible at night, and use a respirator.

Broncho-Pneumonia

Broncho-pneumonia, or capillary bronchitis, as it is sometimes called, is an inflammation of the smaller bronchial tubes, and the air-cells connected with them. The majority of cases of pneumonia in young children are of this form, and it is also very common among old people. It is a disease most frequently found among the poorer classes. It generally occurs as a secondary disease following on some other morbid condition, thus it is a common sequence of measles, whooping-cough, and influenza. It is one of the principal causes of death among young children in large cities. The disease generally begins suddenly with a chill. In the course of a day or two the breathing becomes short, and there is more or less cough. The temperature rises, usually to about 103° or 104° Fahr. Whenever, in the course of convalescing from measles or whooping-cough, the child suddenly becomes feverish again, and is troubled with rapid breathing and a hard cough, broncho-pneumonia is usually present. In bad cases the difficulty of breathing becomes more intense, the colour

becomes more or less livid, the cough gradually disappears, the lungs become choked with mucus, and death occurs from paralysis of the heart. A good deal may be done to ward off broncho-pneumonia during convalescence from one of the fevers. The temperature of the room in which the child lies should be kept as uniform as possible, and by means of flannel pyjamas the surface of the body should be protected from exposure to sudden changes of temperature. At the same time the room should be kept efficiently ventilated, stuffiness of all kinds being avoided. When the disease has actually occurred the room should be kept at a temperature of about 65° Fahr., the bowels should be opened by means of a mild purge, and should be regulated daily throughout the illness. The chest and back should be enclosed in a jacket made of wadding, and the diet should consist of milk, broths and white of egg beaten up with water. The disease is a very fatal one, and usually calls for hospital treatment, as careful nursing is essential. Penicillin is often used now.

Bruises

These are caused by blows, falls, etc., the skin remaining unbroken.

Treatment.—Apply either spirit and water, vinegar, or sal-ammoniac and water. The following is a useful combination : chloride of ammonium (sal-ammoniac), 1 oz. ; rectified spirit, lavender water, or eau-de-Cologne, 2 oz. ; vinegar, 3 oz. ; water to make 16 oz. in all. Rags dipped in this solution should be laid over the bruise and kept constantly wet. Hot fomentations are frequently more effectual than cold applications in removing the associated discoloration.

Bunions

Inflammation of the tissues over the great toe joint, partly real, and partly apparent, due to the pushing of the great toe towards the second toe, and consequent semi-dislocation.

Cause.—Short or tight boots, high heels and pointed toes.

Treatment.—Rational boots with straight inside edge of sole from heel to toe, and fully large. Instruments and splints of many kinds, intended to keep the great toe in its proper position, have been devised. Inflammation to be treated with soothing fomentations and rest. Bad cases require operative treatment.

Burns and Scalds

Before a doctor can be summoned it is always necessary to do something to allay the dreadful pain caused by either of these accidents. When any part has been scalded, immediately immerse it in cold water or pour cold water over it; the clothing will have to be carefully removed, being cut away if necessary. Dust bicarbonate of soda over it, and then apply a wet cloth. In case of any large burn, call the doctor immediately. The most important thing to do meanwhile is to prevent infection and the burn should be covered over with a clean bandage. Blisters should not be opened except by a doctor. Burns in young children are especially dangerous. In such cases, leave the clothing alone and immerse the child in a hot bath with as much bicarbonate of soda as available dissolved in it. Temperature 98° F. Support the head. Keep the child there until the doctor arrives.

Ice broken up and mixed with lard, if renewed directly the ice melts, will greatly allay the pain from burns. A slight burn can be treated at once by rubbing soft soap well in, after which it may be oiled with carron oil, and floured. Cold water should be poured over a person when scalded before attempting to remove the clothing. In cases of clothes catching fire, the patient should be immediately laid down and rolled in a thick coat, rug, blanket, etc., to extinguish the flames.

Cancer

The very name of this disease is fraught with so much significance, and the diagnosis is a matter of so much doubt to the lay mind, that the subject becomes out of the scope of this work. In the case of any tumour being discovered, medical advice should be taken at once, as if it should be of a malignant type, treatment may effect a permanent cure, only if taken early enough. Electrical treatment has, in many cases, very satisfactory results.

Carbolic Acid Poisoning

(See Poisons.)

Carbuncle

Medical advice should be obtained, as early surgical treatment is often desirable. Penicillin is now used in conjunction with the surgical treatment.

Cataract

Cataract is a disease of the crystalline lens of the eye. The lens becomes opaque, and obstructs the entrance of light so completely that, when the cataract is fully formed, the patient can merely distinguish light from darkness. The pupil loses its natural blackness, and the whitish surface of the opaque lens is seen just behind it. Cataract is not on the eye, as is popularly supposed, but in it. The mistake arises from confounding cataract with the whitish opacities of the cornea. Treatment by any kind of medication is entirely useless; the only remedy is the removal of the lens by operation, which is often successful. Of course, in the absence of the lens, the light cannot be focussed accurately upon the retina, and people who have undergone this operation have no distinct vision until a convex lens of glass is placed in front of the eye. As no artificial lens can imitate the power of the crystalline to accommodate its focus to different distances, two glasses are required, one for distance and one for reading.

Catarrh

Catarrh is a term applied to any slight inflammation of a mucous membrane leading to increase of secretion. It is generally taken, however, to refer to those inflammatory conditions commonly known as a simple cold.

Symptoms.—Slight fever, sneezing, running of the nose and watering of the eyes: sometimes followed by a troublesome cough.

Treatment is chiefly of an antiseptic character. The following is a formula for a liquid of which a few drops may be placed on a handkerchief at intervals and inhaled: $\frac{1}{2}$ oz. each of terebene, oil of eucalyptus, camphor and menthol. A less efficient and less cleanly remedy in the early stages of catarrh is menthol snuff. Perhaps the most valuable of all methods of treatment consists in the nasal douche. One excellent liquid for this purpose is that known as Glycerine of Thymol, 1 part in 4 of water; another useful formula: glycerine of carbolic acid, 1 drachm; borax, $\frac{1}{2}$ drachm; bicarbonate of soda, $\frac{1}{2}$ drachm: water to 6 oz. 1 drachm of ammoniated tincture of quinine at the onset will frequently abort the cold.

After the first stage of a cold is passed, the nasal douche and inhalation have usually very little beneficial effect. (*See also Colds.*)

Cellulitis

Cellulitis is a name given to the condition when suppuration occurs, not in the localized form known as an abscess, but in a diffused form so that whole masses of tissue are involved. The inflammation is not limited to one part, as it is in an acute abscess, but spreads along the cellular tissues, often with great rapidity. As a consequence the tissues become swollen, and if a cut is made in them, matter may be squeezed out from all directions. The condition is usually a serious one on account of the risk of septic poisoning owing to the ease with which the germs of the disease pass into the general circulation. The condition generally arises from some scratch or wound, the first symptom being a sense of uneasiness in the affected part ; the skin becomes red, and the redness shows on the surface in the form of lines running along the course of the lymphatic vessels to the nearest glands. The skin becomes swollen and tender, pitting like dough impressed with the finger. If no treatment be adopted and the patient does not succumb from general blood-poisoning, openings will after a time occur over the inflamed area, and the matter will naturally drain itself. These symptoms are as a rule accompanied with serious constitutional disturbance ; there is high fever, often delirium, and great prostration. Severe cellulitis often follows upon the bites of venomous reptiles and insects, but it may occur in connexion with any wound, even of the most apparently trivial nature. The treatment of cellulitis must be vigorous from the first, and no time should be lost in obtaining surgical assistance. It is important that free incisions should be made in the inflamed part so as to allow the poison to escape as readily as possible. The strength of the patient should be maintained by liquid nourishment and by the use of quinine in large doses. After the inflamed tissue has been well opened great benefit is often obtained by bathing the arm or leg affected in a basin of water kept continuously hot.

Penicillin and M & B are now often successful in the treatment of this and may prevent formation of pus.

Chapped Hands

Rub them with lanolin or glycerine at bedtime, and put gloves on. If glycerine is used the hands should first be washed in warm water and partly dried on a warm soft towel.

Chicken-Pox

This is an infectious but harmless disease of childhood attended by slight constitutional disturbance, as a rule, and after running its course for a few days ends in complete recovery. Often several children of the same family have it, one after the other. It affects both sexes alike and all classes indiscriminately. After a period of incubation of about a fortnight, a number of little red points appear on the skin, and in the course of 24 hours each has become a small blister, or vesicle, raised above the surface, and surrounded by a pink areola or zone. The next day more red spots appear, which also form blisters, and so on for about 3 or 4 days fresh crops appear, the previous ones attaining a maturer stage. The eruption is most abundant on the back and front of the body. In about a week the vesicles begin to wither and dry up, and in about 10 days longer the scabs fall off, leaving as a rule no scar or pit marks.

Treatment.—The child should be put to bed when the spots appear, and by the use of fingerless gloves prevented from scratching the pox. Diet should be plain and simple, chiefly of milk and farinaceous foods. Medicine is not necessary. The patient should not be allowed to mix with other children till the scabs have fallen off; occasionally the little patient is restless and feverish, but in most cases the child will play as cheerfully as usual and appear to have nothing the matter with it.

It is well to have medical advice in cases of suspected chicken-pox, as the resemblance between this disease and small-pox is so great. Also in many places chicken-pox is one of the diseases, cases of which have to be notified to the local sanitary authorities.

Chilblains

are possibly due to a calcium deficiency in the blood and are induced by exposure to cold. Those susceptible should keep their hands and feet warm. Gloves, thick socks and comfortable boots should be worn. Calcium lactate, 5 grains 3 times a day, is often beneficial. The following is an excellent remedy for unbroken chilblains on the feet: hydrochloric acid, diluted, $\frac{1}{4}$ oz.; hydrocyanic acid, diluted, 30 drops; camphor water, 6 oz. This chilblain lotion cures mild cases by one application. It is a *deadly poison*, and should

be kept under lock and key. A responsible person should apply it. *This must not be applied to broken chilblains, and should never be used for the hands.* (See also Camphorated Spirits of Wine in the chapter dealing with Domestic Medicines, and Embrocations and Liniments.)

Chilblains on the fingers should be painted with tincture of iodine, or camphor ointment may be applied. (See also Chapped Hands.) Local treatment is, however, only palliative, and the cure lies in the treatment of the general condition, by warmth, good food, calcium lactates and tonics.

Childbirth

As it sometimes happens, especially in the case of those who reside in the country, and at some distance from medical assistance, that the child is born before the doctor has had time to be sent for, it will be well for those who are in attendance to know how to act in the meanwhile. It is desirable, therefore, to lay down a few plain rules for the guidance of those who may at any time be thus awkwardly situated. As the head is being born, one of the attendants should place her left hand upon the patient's belly and grasp the womb. The object of this is that she may be able to follow it as it contracts and expels the child, and when the infant is born that she may keep hold of it until the arrival of the doctor, or, at any rate, till the after-birth has come away. Unless this simple precaution is attended to, the patient may suffer from flooding, and her life be endangered. When the head is born, one of the attendants should place her hand upon the child's neck and feel if there is any coil of cord round it; if there is it ought to be loosened or it may be removed from the neck altogether. It is very important that this should be attended to without delay, as the child may be very easily strangulated if the cord is wound tightly round the neck. Having ascertained that everything is right, that there is no coil of cord about the neck of the child, the right hand of the attendant should be placed under the infant's head to direct it forwards as the body is born, which will generally be in a few seconds afterwards. On the child being born, if strong and healthy, it will generally begin to cry. If, however, instead of crying it remain in an apparently lifeless condition, efforts must be made as speedily as possible to cause it to breathe. For this purpose the child should be smartly tapped upon the buttocks, back, or chest,

which will, in many instances, have the desired effect of bringing it round. Should this procedure, however, not have the desired effect, what is called artificial respiration must be had recourse to. Artificial respiration may be performed as follows :—The hands of the infant are seized by the attendant and raised from the side until they are lifted above the child's head as far as they will go, by doing which the act of inspiration or drawing of air into the chest is imitated, after which the hands and arms are to be depressed until they are brought to the side again, by which the air will be driven from the chest, and the act of expiration be thus imitated. These movements should be repeated at the rate of 15 to the minute until respiration is established. Suppose, however, that the child has been born, and that as soon as it comes into the world it begins to struggle and kick violently, what is to be done ? If the medical attendant is likely to arrive presently, the infant's head should be turned towards the end of the bed, so as to be away from the discharges, and the bed-clothes so arranged as to admit of a plentiful supply of air. Beyond this nothing need be done in such cases. If, however, it is uncertain when the doctor may arrive, or if it be in the country, where the presence of skilled assistance cannot always be depended on just when wanted, it will generally be necessary to divide the cord, and thus sever the child from its connexion with the mother. This may be done in the following manner :—The cord being taken up in the left hand, a piece of tape, several strands of whitey-brown thread, or two or three thicknesses of yarn, are passed round it and tied in a double knot about the distance of 3 fingers' breadth from the baby's navel. A second ligature should then be placed about $1\frac{1}{2}$ inches nearer to the mother, and midway between these two ligatures the cord is to be divided. The application of this second ligature is not absolutely necessary in the great majority of cases, but it is always better to apply it. This having been done, the child is to be placed in the flannel receiver and removed to a secure place. This should not be an arm-chair, or other place of a like nature, where the child runs a risk of being injured through the carelessness or forgetfulness of those in the room. Further attention must now be directed to the mother. The first question which naturally suggests itself on turning again to her is, "What of the after-birth ? Is it to be removed, or should it be allowed to remain ?" The answer to this is,

that "the less the attendants interfere with the after-birth the better." Any rash attempts at removing it by pulling upon the cord may be followed by severe flooding, or by breaking of the cord, the after-birth remaining in the womb. Frequently, indeed, the after-birth comes away a short time after the child is born, the same pain that brings about the expulsion of the latter, giving rise to the loosening of the former, so that on the recurrence of the pains after a short period of rest it is frequently expelled. Sometimes, also, the same pain which caused the birth of the child expels the after-birth, which follows upon the infant's heels. Should it not come away by the normal contractions of the womb, no attempt is to be made to remove it. The hand of the attendant, which has been grasping the womb, must not be relaxed, but should be kept there incessantly until the arrival of the medical man. This pressure by the hand over the lower part of the belly upon the womb is a great safeguard against the occurrence of flooding, and frequently will be found of assistance in causing the expulsion of the after-birth. Care must be taken, in removing the child from the bed, that in lifting it a sufficient hold is obtained. It sometimes happens that by the careless manner in which children are lifted they fall, and are seriously bruised and injured. The way in which a child can be best lifted is by taking the back of his neck between the thumb and forefinger of the right hand, and allowing the buttocks to rest upon the palm of the left. In this manner the child may be lifted with perfect security and placed in the receiver.

Children, Management of

(See p. 237.)

Children, Rearing of

(See p. 237.)

Children's Clothing

(See p. 249.)

Children's Complaints

(See p. 250.)

Children's Food

(See p. 249.)

Chill

A chill may result in cold in the head, cold in the throat or windpipe, cold in the lungs (bronchitis), or cold in the stomach or bowels.

General Treatment of Chill.—A hot bath before getting into a warmed bed, followed by a hot drink of either gruel or wine and water. One or two grains of calomel or blue pill, followed by a Seidlitz powder in the morning. If at all feverish the patient should stay in bed next day, when the effects of the chill will probably pass away.

Chloral Poisoning

(See Poisons.)

Chlorinated Soda Poultices

(See Poultices.)

Chloroform Poisoning

(See Poisons.)

Chlorosis

Chlorosis is a form of anæmia chiefly occurring in young girls. It is very rarely seen now that young women are encouraged to lead a healthy open-air life.

The most noticeable symptom is an extreme pallor, giving almost a suggestion of greenness, to which the disease owes its name of Green Sickness. There is usually great shortness of breath with palpitation. Indigestion also is a common symptom, and this is usually accompanied with constipation. There is no wasting. Amenorrhœa is frequent. The disease readily yields to treatment, the regular administration of iron spread over some weeks almost invariably effects a cure. This may be taken in almost any form, 4 Bland's Pills may be taken daily for 4 or 5 months, or 20-grain doses of the citrate of iron and ammonia may be taken 4 times a day for the same period. The constipation should be corrected, suitably by means of aloes pills.

Choking

If the substance causing choking is at the upper part of the throat, try to seize it with the finger and thumb. If this

cannot be done, send for a doctor immediately. It is dangerous to attempt to push anything down the throat. A smart blow on the back will sometimes dislodge a foreign body from the throat. If the obstruction is only slight, swallowing a small piece of dry bread will often effect the removal.

If it seems serious, medical aid should be sought instantly. Children may be held upside down, and smartly slapped on the back. (*See also Swallowing a Stone or Coin.*)

Cholera

Asiatic, malignant or epidemic cholera seems to have been known in India for centuries and to have its natural home or headquarters in the Delta of the Ganges. The disease has almost always prevailed in its worst form in poor, crowded dwellings, among those whose food was bad, and whose hygienic conditions were unfavourable, but especially among those who had a tainted supply of water.

Causes.—The disease is usually due to drinking water contaminated with sewage containing the cholera vibrio.

Symptoms.—In a case of ordinary intensity cholera is ushered in by an attack of diarrhoea. This may last a longer or shorter period, but speedily the matters passed by the bowel assume a flocculent or rice-water character. Vomiting, too, comes on, the fluid being thin and colourless. Then follow severe cramps, especially of the abdominal muscles and legs. The flow of urine ceases, the body becomes icy cold on the surface, the tongue is cold, and so even is the breath. The lips are blue and shrivelled, the face pinched, the voice is hardly audible. This is called the cold or algid state of the disease. The condition may go on getting worse till the heart stops, the patient being quite conscious to the end. Frequently it is impossible to tell whether the patient will live or die, when suddenly the sickness lessens, the body begins to get warm, the face flushes, and restlessness subsides. The patient may go through this reactionary stage to perfect recovery, or he may relapse into his former state of diarrhoea and vomiting, ultimately dying from heart failure and collapse. Thus, in an ordinary mild case of cholera, a man will pass through three stages, probably, in about 48 hours. Firstly, that of premonitory diarrhoea; secondly, that of collapse; and thirdly, that of reaction.

Treatment.—Medical aid must be sought at once. If the patient is consumed with thirst, there is no reason for refusing

him drink of a wholesome kind. Should reaction occur, he must be kept quiet. If his head troubles him, and his face is flushed, apply ice or cold water. If there is much sickness let him have a little ice-water to drink. If his lungs become gorged, warm poultices or turpentine stupes will be best. But the kidneys are the chief anxiety. If they do not act, warmth must be tried, perhaps as a warm bath, but this requires caution. If they are acting well and the patient requires a stimulant, let him have some sal volatile. The food to be given is of especial importance; broths, soups and jellies may be given, but certainly not meat. Small quantities must be given at a time, and repeated as frequently as necessary.

He who would avoid cholera during a cholera season ought to live by rule and method. First, see that the sanitary arrangements are in good order, and that every precaution is taken in cleansing and disinfecting the offices. Carbolic or one of the much advertised disinfectants answers very well for this. See that the house is clean, sweet and airy, and that no decaying matters remain upon the premises. Be sure that the water supply is pure; if there is any doubt about the matter, it is safer to drink only water that has been boiled and filtered. Have all cisterns emptied and thoroughly cleaned out, and see that the coverings fit accurately. Let no stale meat or vegetables, or substances likely to create digestive disturbances be used; avoid unripe fruit, prolonged abstinence from food and excessive fatigue. Avoid strong aperient medicines of every kind. Inoculation against cholera, used very extensively in recent years, has proved highly efficacious.

Cholera Infantum

Cholera infantum, or inflammatory diarrhœa, is a disease much more prevalent and fatal in large cities than in the country. It is especially common among the poorest classes who live in the most crowded districts. It is a disease principally of the summer months, and generally attacks children between the age of 3 months and 2 years. It rarely attacks breast-fed infants, which shows that it is, at any rate, aggravated by milk containing impurities and the germs of fermentation.

Symptoms.—The attack generally begins with vomiting, and this is soon followed by rapidly increasing watery diarrhœa. The tongue becomes thickly coated, and there is great thirst

and restlessness. Unless steps are taken to arrest the progress of the attack the symptoms of collapse soon manifest themselves. The eyes are sunk, the face becomes of an earthy pallor, and the previous restlessness is replaced by extreme feebleness and listlessness. A large proportion of cases die in about a week from the onset.

Treatment.—In the way of treatment much can be done. The chief preventive measures consist in boiling or sterilizing every drop of milk taken by an infant during the summer months. Once the diarrhœa has commenced the first thing is to give a dose of castor-oil or a couple of grains of calomel in order to clear away all irritating or decomposing food from the intestine. Unless the child is at the breast all milk in any form should at once be discontinued. For one or two days nothing should be given but cold boiled water and white of egg mixed with barley-water. To prepare the latter mixture 1 white of egg should be allowed to each half-pint of barley-water, a little sugar being added to make the mixture more palatable. Teaspoonful doses of the following mixture should be given every 2 hours, until the vomiting and diarrhœa have entirely ceased: Carbonate of bismuth, 1 drachm; salicylate of soda, 1 drachm; glycerine, 2 drachms; and water added to 2 oz.

Death occurs from loss of fluid from the body by diarrhœa and vomiting; it is therefore very important that the child should get as much fluid into the system as possible. What is taken by the mouth may be supplemented in severe cases by subcutaneous injections of normal saline, or rectal injections of the same fluid.

The ordinary house-fly is the principal agent in the infection of milk and should be ruthlessly exterminated. With the replacement of horses by motors and the consequent diminution in the number of manure heaps, which are the breeding-grounds of flies, this disease is gradually becoming much less prevalent.

Chorea

(See St. Vitus's Dance.)

Cirrhosis of the Liver

(See Liver.)

Clothing, Children's

(See p. 249.)

Club-Foot

Club-foot or talipes is a term implying an abnormal position of the foot or of its parts in its anatomical relations. Generally certain muscles, tendons and ligaments are contracted. The chief forms have been given special names, namely: one, pes valgus, in which the outer side of the foot is raised and the sole looks outwards; two, pes varus, in which the inner side of the foot is raised and the sole looks inwards; three, pes equinus, in which the heel is raised and the patient walks on the balls of the toes; four, pes calcaneus, in which the toes are raised and the patient walks on the heel; five, pes cavus, in which the arch of the foot is much increased; and six, pes planus, in which the arch of the foot is diminished, and the sole rests on the ground. Combinations of these forms frequently occur. Club-foot may be inherited or it may be acquired. Among the commoner causes of acquired club-foot are spinal disease, convulsions, inflammations or injury of the muscles or tendons, dislocations, strains, and fractures.

Treatment.—The treatment of the various forms of club-foot naturally varies very much in each case, and calls for the greatest skill and judgment. Skilled surgical advice should therefore be obtained at the earliest possible moment. In nearly all cases some appliance will be required, and in many cases an operation will be found necessary.

Cold

Cold is a term generally used to denote a nasal catarrh, and the name implies that this catarrh is brought about by exposure to cold. Exposure is, however, only a predisposing cause. All colds are infectious, i.e. due to microbes, the one responsible for common colds being the *micrococcus catarrhalis*. These microbes are most frequently inhaled into the nose, throat and lungs from the stuffy atmosphere of crowded halls, tubes and trains. As the temperature of the atmosphere outside these places is often many degrees colder, the surface of the body becomes chilled and the resisting powers of the organism to microbic invasion are lowered. Many serious illnesses have as their preliminary a nasal catarrh and it behoves the sufferer not to neglect it. If the infection spreads from the nose to

the pharynx, tonsils or bronchi it is no longer called a cold but pharyngitis, tonsillitis or bronchitis.

Symptoms.—The preliminary symptoms are shivering and sneezing, with lassitude, pains in the back, loins and limbs, headache and an unnaturally dry state of the lips and nostrils. These are quickly followed by excessive acrid discharge from the nostrils, which later becomes mucous or even purulent. There may be hoarseness and slight sore throat, watering of the eyes, feverishness, loss of appetite, furred tongue, thirst and quick pulse. Sometimes small vesicles, called herpes, appear on the lips or about the nose. These symptoms do not last long; they pass away, or become aggravated if the inflammation passes onward into the interior of the lungs.

Treatment.—Put the feet in hot water, and, if an adult, take 10 grains of Dover's powder, a cupful of gruel, and go straight to bed. The following is also useful, and may be taken instead of the Dover's powder: Sweet spirits of nitre, 20 drops; acetate of ammonia solution, a teaspoonful; camphor-water sufficient to make 1 oz.; to be taken as a draught at bedtime. Ten to 15 drops of spirit of camphor taken on a lump of sugar, and repeated in 2 or 3 hours, is also useful. As the debility is real, the diet should be stimulating.

For a severe cold in the head.—Put 1 teaspoonful of strong camphorated spirit into a basin with $\frac{1}{2}$ pint of boiling water. Wring out a sponge in this as hot as possible, and apply it to the nose and mouth; draw in the steam with the nose first, and then with the mouth; swallow the steam, and, to prevent any escape, cover the head with a flannel. Continue this treatment for several minutes, having another hot sponge ready when the first gets cool. Sponges so wrung out in the same mixture may with great benefit be applied outwards to the throat and chest.

Camphorated sal volatile is a good medicine for a cold, 30 drops in a wineglassful of warm water several times in the course of the day.

Cold Applications

Cold, when applied, must operate steadily, uniformly, and over a definite space. If the bag of ice or the cold cloths slip about as the feverish patient turns and twists, it is useless, perhaps harmful: if it is allowed to become warm before being renewed, it had better not have been applied.

(1) *Cold Cloths*.—Apply single folds of linen or cotton dipped in cold water and replace them by fresh cool ones before they become warm.

(2) *Cold Drip*.—Stand a bowl of water on some bureau or table higher than the patient's bed. Put one end of a long strip of lint or lamp-wick in the bowl and lay the other across a cold cloth, which is applied to the inflamed part. A continuous little trickle of cold water is thus conveyed to the part and the water which passes from it must be caught in a basin on the other side.

(3) *Cold Drop*.—A bottle filled with cold water can be suspended above the bed sometimes, where there is a curtain ring in the ceiling, for instance, and a piece of lamp-wick half in, half out, and made to hang just over the part to which cold is to be applied. A constant drop of cold water is thus secured. Care must be taken that the water is conveyed into a basin and not allowed to soak the bed. This cold drop is more easily used with a wounded arm or leg, which can be placed in a trough made of india-rubber cloth and sloping towards a basin or pail. An excellent fixture for applying continuous cold consists of a rubber bag with a flexible tube at either end—one being attached to a faucet or water-cooler and the other hanging over a pail. The bag, through which a stream of cold water is passing, is applied where desired, having between it and the part a damp cloth.

(4) *Ice*.—Ice may be broken up into pieces and put into a bladder, or an india-rubber ice-bag. The bladder should not be more than half full and should be securely tied around the neck. The best way of applying ice to the head is to place a smooth piece of ice, 2 or 3 inches long and about $1\frac{1}{2}$ broad, in a cup of soft sponge and pass it round over the head. The sponge absorbs the water as the ice melts and the pain of the cold is avoided.

(5) *Ice-bags*.—Put pounded ice with a little water into a thin bladder or india-rubber bag. The water remains cold until the last bit of ice is melted; renew before this. By these bags, continuous cold is secured and no danger from frost-bite need be apprehended. Ice can be easily pounded by wrapping it tightly in one end of a thick cloth and then slinging the cloth with force against a stone hearth. Do not fill the ice-bag full; half-filled, it adapts itself better to the heated part.

Cold Feet

(See Feet, Cold.)

Colic

Colic is a term applied to severe abdominal pain, paroxysmal in character, and may arise from the kidney, gall-bladder or the intestine. If the pain is very severe vomiting occurs.

Causes.—In the kidney and gall-bladder the pain is produced by the passage of a stone down the tube leading from these structures : in the intestine it is produced by a spasmodic contraction of the large bowel due to excessive flatulence, to obstruction by some kink, or growth, to the presence of some irritating or indigestible matter, to some poisons such as lead, and also to the administration of certain purgatives.

Treatment.—The renal and biliary varieties should be treated by hot fomentations and if very severe a doctor should be summoned who will if necessary administer morphia. If due to indiscretions in diet hot fomentations should be applied and a purge of 3 grains of calomel and a dose of saline in the morning administered.

Complaints of Children

(See p. 250.)

Concussion of the Brain

Usually caused by an accident, the head coming in violent contact with something hard and injuring the brain.

Symptoms.—The patient lies semi-conscious and helpless, seems bewildered, or may be completely unconscious. The face is white and pinched, pulse very faint and temperature sub-normal.

Treatment.—Move the patient as little as possible, and keep him absolutely quiet in a darkened room. He should be placed between hot blankets and hot bottles, or a hot brick wrapped in flannel applied to the feet and body. Alcohol should not be administered unless ordered by the doctor, who should be summoned immediately.

Congestion

By congestion is meant a dilatation of the blood-vessels over a particular area. Its commonest manifestation is in the act of blushing. There may be general congestion of the

internal viscera, as is often seen in plethoric persons, but more commonly it is one particular organ or part which is affected in this way. The liver in particular is subject to congestion. In this case alcohol and all highly seasoned food should be avoided, and moderate purgation should be resorted to. Very similar treatment should be adopted in the case of congestion of the kidneys; though in this case it is also most important to bring about a free action of the skin by means of warm baths and the drinking of large quantities of warm liquids. Congestion of the lungs is often the first stage in pneumonia, and should be treated in a similar way to this disease. There is, however, another type of congestion of the lungs which is even more serious. It often occurs in the last stages of exhausting fevers, as well as of various complaints of the aged. It is known as hypostatic congestion, and is due simply to the action of gravity. Owing to the patient lying continuously on his back, and at the same time owing to the lack of tone in the blood-vessels, the blood collects in the back portions of the lungs. In all cases where this condition may be anticipated it is therefore a good plan to roll the patient over first on one side and then on the other for 2 or 3 hours daily, so as, at any rate to some extent, to relieve the congested area. (*See also* Liver.)

Conjunctivitis

Conjunctivitis, that is inflammation of the membrane covering the eye, occurs in many forms, of very varying degrees of severity. That of most frequent occurrence is known as catarrhal ophthalmia.

Symptoms.—In this form the membrane becomes reddened, there is a gritty feeling in the eye, and a sticking together of the lids on awaking in the morning. As all forms of conjunctivitis are more or less infectious, the greatest care should be taken to prevent them spreading through a household. As far as possible the patient should be isolated, and all towels or other cloths used by him should be kept for his sole employment.

Treatment.—The treatment of the simple form of ophthalmia consists in frequently bathing the eye with boracic lotion and the application morning and evening of a little yellow oxide of mercury ointment. More serious forms of conjunctivitis such as trachoma, purulent ophthalmia and mem-

branous conjunctivitis, are far too grave in their possible consequences for home treatment of any kind. When any of these occur skilled advice should at once be obtained and strictly followed.

Constipation

may be due to disease of the bowels, or to an imperfect performance of their function. Any disease, such as ulceration or cancer, which obstructs the passage of the food, will cause constipation; and any condition which produces a paralysed or sluggish state of the muscular walls of the bowel. With rare exceptions people can never enjoy good health while they suffer from constipation; dyspepsia, headache, vertigo, and piles are some of the direct results of this condition.

Causes.—Neglect in attending to the call of nature; an insufficiency of fluid in the diet, a wrong dietary, insufficient exercise.

Treatment.—(a) Establish a regular habit of giving the bowel an opportunity to act even if desire is absent. This is particularly important in the case of children. (b) A sufficient quantity of fluid should be taken daily—at least 2 to 3 pints, a glass of hot or cold water half an hour before breakfast, and repeated at bedtime if necessary. (c) Prunes, figs, baked apples, bananas, jams, honey and treacle, and brown bread should be included in the dietary, and such articles as new bread, pastry, hard-boiled eggs, strong tea (especially with meal) should be forbidden. (d) Regular exercise, especially those forms which employ the abdominal muscles, such as skipping, tennis and ping-pong, should be obtained. Massage of the abdomen in a circular *clockwise* direction for a few minutes in bed every morning before rising is sometimes very beneficial. Enemata should be avoided except at the onset of treatment when an overloaded bowel may have to be emptied. Half a pint of warm olive-oil slowly injected 12 hours before the soap and water enema softens the contents and renders their evacuation easier. (e) *Aperients.*—One of the most useful remedies for constipation is liquid paraffin. A tablespoonful should be taken every morning or every night until the bowel has become saturated. This will be shown by a little leakage of oil from the back passage. When this occurs the oil should

be stopped for 2 or 3 weeks. Paraffin is not absorbed, i.e. if a tablespoonful is taken a tablespoonful is evacuated. It acts as a lubricant and a softener of the contents of the bowel, but does not cause contractions of the muscular coat. If the muscle tone is poor, therefore, a simple aperient such as cascara or senna pods should be taken in addition, and this may be given up gradually as the bowel begins to act regularly. Six to twelve senna pods should be placed in a third of a tumblerful of cold water at night and the supernatant fluid drunk the following night, and the dose for the succeeding night prepared. In this way the preparation of the dose is less likely to be forgotten. The cold-water infusion is less griping than one made with hot water, which can be employed if the dose is wanted in the course of a few hours.

Consumption

This disease is called technically *phthisis*, a Greek word, meaning a wasting away, wasting being a common symptom in the latter stages of the disease.

Cause.—Consumption is a form of lung disease which is characterized by destruction and ulceration of the lung itself; it is caused by the growth and multiplication in the lung substance of the tubercle bacillus, discovered by Professor Koch. These bacilli produce inflammatory changes in the lung; and later ulceration and degeneration of lung tissue take place, resulting in the formation of abscess cavities, the pus from which is coughed up as greenish yellow sputum. Occasionally the destruction of lung tissue involves a blood-vessel and hæmorrhage results. This hæmorrhage is generally slight in the early stages of the disease, but in the later stages may be so severe as to result in the immediate death of the patient either by suffocation or by loss of blood. (See Hæmorrhage.)

Symptoms.—The early symptoms of consumption are cough, slight perhaps but persistent, with mucous expectoration, shortness of breath on exertion and a general feeling of malaise, the patient gets readily tired, loses his appetite and may complain of indigestion. There is often no fever to begin with, but there may be a slight rise in the evening. As the disease advances the damaged lung is attacked by other microbes than the tubercle bacillus, and it is to this secondary infection that the high fever, hectic flush, night sweating and

increased expectoration is due. In the later stages the cough becomes very troublesome and exhausting, the digestion is much impaired, the body is worn out by fever and the patient dies from exhaustion.

There is no doubt that phthisis is a much more common disease than is generally thought. It is stated that two-thirds of the patients in hospital upon whom post-mortem examinations are made show signs in their lungs of having had consumption which has healed up. Many of the troublesome colds and coughs which last through the winter and only disappear with the advent of warm weather are tuberculous in nature, so that the disease is evidently very curable. Once it has become established, however, the cure is long and tedious and even after apparent cure relapses are frequent.

Treatment is much more a matter of attention to general hygiene and diet than medicine. It is very important to keep up the general level of health, to keep the patient cheerful and to feed him well without overtaxing his digestion. Fresh air and sunshine are essential; the clothing should be light and warm, woollen night and day, winter and summer. The skin should be made to act freely by warm or tepid sponging, followed by rubbing down with a rough towel, and the amount of exercise should be graduated according to the strength of the patient. In sanatoria the amount of exercise is regulated by its effect on the temperature, the scale, of exertion varying from a walk of 100 yards up an incline to heavy digging and navvies' work. If the temperature rises more than one degree above normal, the patient is either sent back to bed or the amount of exercise curtailed.

The effect of climate is apt to be exaggerated, but it is pretty certain that a dry and sunny climate is best. There are many sanatoria on the South Coast of England, in the Highlands of Scotland and Wales, and *par excellence* in the high and sunny slopes of the Alps. Sea voyages are to be avoided except in the very early stages as the cabin of a steamer may be stuffier than any room in a house.

The medicines to be given to the patient must be regulated by the physician in charge of the case. Cod-Liver Oil is valuable as a food because of its rich content of vitamins. In case of a sudden hæmorrhage send for the doctor at once and keep the patient absolutely quiet, give him ice to suck and apply an ice-bag to the chest. Tuberculin injections were

at one time very strongly advocated, but have now fallen into disfavour.

Patients afflicted with the disease should avoid indiscriminate expectoration, since the sputum contains millions of bacilli, and when it dries these may be carried about in the air, and become a source of infection to healthy individuals. Little flasks are now sold in which patients can expectorate when travelling. At home a spittoon, containing a 1 in 20 solution of carbolic, should be used.

Contused and Lacerated Wounds

(See Wounds.)

Convulsions

Some children are much more liable to suffer from convulsions than are others, owing to their nervous system being more impressionable.

Causes.—Difficulty in teething is a frequent cause, the irritation of the gums affecting the brain; and when the cause or irritation is removed the convulsions disappear. Indigestible articles of food are another frequent cause.

On the other hand, convulsions are serious and can cause death from asphyxia and injury. Call a doctor at once. They may be caused by epilepsy, pneumonia or other acute fever.

Symptoms.—Sometimes the convulsions are partial; thus an arm may twitch or certain portions of the face. Again, the convulsion may be general, when the muscles of the face, eyes, eyelids and limbs are in a violent state of rapid contraction alternating with relaxation. Froth may appear at the mouth, which, if the tongue has been bitten, will be tinged with blood. The head is generally thrown back, and the thumbs pressed in upon the palms of the hands.

Treatment.—If the teeth are plainly at fault, the gums must be scarified with a piece of lump sugar or lanced with a gum lancet, and 3 grains of bromide of potassium may be given in a little water. If due to some indigestible article of diet, it must be got rid of as soon as possible. A safe emetic is a teaspoonful of ipecacuanha wine in tepid water; drinks of tepid water being afterwards given. This, of course, is only to be given if it is thought that some indigestible article of food has given rise to the convulsions, and if too long a time has not elapsed since it was swallowed. If some hours

have elapsed, it will be better to give a teaspoonful of castor-oil. The following mixture will be found useful, and may be given to children from 1 to 3 years old: bromide of potassium, 2 drachms; iodide of potassium, $\frac{1}{2}$ a drachm; syrup of orange-peel, 1 oz.; water to make 4 oz. A teaspoonful every 3 hours, till all tendency to twitching of the muscles has passed away. Another very useful item of treatment is a warm bath or a pack. A sheet should be wrung out of hot water and wrapped round the child from the neck downwards, and over this one or two blankets. The child should remain in this for 1 hour, after which time it may be taken out and dried with warm towels. Or the child may be immersed in a warm bath up to the neck, or put in a hip-bath with as much water as can be got into it, so as to cover as much of the body as possible. A tablespoonful of mustard added to the water will, by acting as a counter-irritant, increase the efficacy of the bath. It should remain in this for about 15 minutes, during which cold cloths may be applied to the head, and then be put to bed.

Copper Poisoning

(See Poisons.)

Corns

Corns are chiefly caused by the pressure of tight or ill-fitting boots.

Treatment.—Probably the best remedy for corns is salicylic acid, 1 drachm; extract of Indian hemp, 20 grains; flexible collodion, 1 fluid oz. Paint over the corn each night for 5 nights and then soak in hot water. Circular, felt corn plasters are useful to remove pressure. Touching repeatedly with strong acetic acid sometimes destroys corns.

Cough

Cough arises from irritation of the mucous membrane of the upper air passages. The irritation may be due to actual inflammation of the passages themselves with or without secretion, or it may be due to the mechanical irritation of phlegm or sputum coming from the lung. Cough is a reflex action by which Nature attempts to keep the airways clear. Inflammation of the throat, the larynx and the windpipe often gives rise to a troublesome cough with very little secre-

tion. As the purpose of cough is to get rid of the irritant, it is wise to control the cough until some phlegm can be brought up, as the frequent coughing only tends to increase the congestion and irritability of the mucous membrane. Extreme sensitiveness is found in whooping-cough, the cough being explosive in character and one cough succeeding another until the patient can no longer cough, when a deep inspiration takes place through the contracted glottis causing the characteristic whoop.

In tuberculous laryngitis the cough is persistent and distressing and contributes largely to the fatal issue by wearing the patient out. Aneurism and heart disease produce cough due to their effects on the lungs. A reflex cough is sometimes produced by syringing the ears.

Treatment.—The treatment of all coughs is the removal of the source of irritation—if in the upper air passages, medicines designed to increase the secretion and thus wash away the microbes causing irritation should be given, and in addition inhalations of Friar's Balsam (1 drachm to the pint of boiling water) should be tried.

If the secretion is in the lung the only thing to be done is to cough it up, and efforts should be directed towards rendering it easier to cough up. A linctus containing 1 drachm dilute sulphuric acid, 1 drachm ipecacuanha wine, and syrup up to an ounce and a half may usefully be given in teaspoonful doses.

A mustard-plaster over the upper part of the breast-bone sometimes relieves tracheal cough. A teaspoonful of ipecacuanha wine in a wineglassful of hot water produces vomiting and relieves instantly the spasmodic croup of children.

It is very unwise to stop a cough by the administration of opium or morphia, as it directly antagonises Nature's efforts to cure the disease.

Cow-Pox

Cow-pox or vaccinia is an eruptive disease of the cow. The poison of this disease, when inoculated into man, produces a local eruption or pock with a variable amount of constitutional disturbance. This inoculation, which is commonly known as vaccination, affords at any rate for a time a protection from small-pox, or at least from its more serious consequences.

Various complications occasionally result in connexion with vaccination, but these for the most part have no direct relation to cow-pox. They are usually the result of uncleanness, and the symptoms are those of blood-poisoning, such as may occur in connexion with any ordinary scratch or cut in which the wound happens to become foul.

Cramp

The cramp is a sudden and rigid contraction of one or more muscles of the body, mostly of the stomach and limbs, which is very painful, but of short duration. The parts chiefly attacked with cramp are the calves of the legs, the neck and the stomach. When the muscles are affected, they feel as though they were puckered and drawn to a point, or seem to be writhed and twisted into a hard knot; the pain is agonizing and frequently produces a violent perspiration. If the stomach be the affected organ, the midriff takes part in the constriction and the breathing is short and distressing.

The usual causes are sudden exposure to cold, drinking cold liquids during great heat and perspiration, eating cold indigestible fruits, overstretching the muscles of the limbs. Cold night air is a common cause of cramp, which is now considered to be due to a poor blood supply to the muscles of a part.

Treatment.—When it occurs in the limbs, warm friction with the naked hand, or with a stimulating liniment, will generally be found to succeed in removing it. Where the stomach is affected, brandy, ether, laudanum or tincture of ginger, affords the speediest means of cure. In cramp in the stomach a dose of brandy and opium, with mustard cataplasms to the feet, will frequently relieve the patient.

To relieve cramp in the legs.—Press the feet firmly against some hard substance, such as the end of the bed, or a cold hearthstone.

Croup

Croup means obstruction to inspiration associated with noisy breathing. It is a very common symptom of diphtheria when it has invaded the larynx; in fact, this disease was formerly known as membranous croup. Medical assistance should be summoned without delay, as it is by no means easy to decide whether the laryngeal obstruction is due to a simple catarrhal

laryngitis or to laryngeal diphtheria. Croup is, however, very frequently the result of simple congestion of the larynx, or of merely spasmodic contraction; in which cases it is of far less serious import than when diphtheria is the cause.

Symptoms.—Croup is attended by very noisy inspiration, on account of the narrowed condition of the glottis preventing the free entrance of air into the lungs. The child feels as if it were about to be choked, and makes violent efforts with the muscles of the chest to increase the supply of air within the lungs.

Treatment.—Croup is a condition in which no delay should take place in treatment, as imminent danger may ensue from suffocation. Give the child a hot bath at once, then put it to bed between hot blankets. Wring sponges out of hot water, and apply them constantly to the throat. A bronchitis or other kettle should be kept boiling in the room, as the steam from this often has a very beneficial effect on the breathing trouble. Vomiting should be induced by doses of ipecacuanha wine. Give 1 teaspoonful every quarter of an hour in tepid water, and give drinks of tepid water between, until vomiting takes place. After an attack care should be taken not to expose the child to draughts; flannel should be worn next to the skin, and the feet kept warm and dry.

Cuts

To promote rapid healing the essential thing is to make the wound and surrounding skin absolutely clean by washing thoroughly with pure soap and hot water. When clean, rinse in fresh water and carbolic lotion (carbolic acid, 2 teaspoonfuls; water, 1 tumblerful), if available. A very good alternative is to paint the cut with tincture of iodine. Methylated spirit is a good substitute for iodine, and is often available where the latter is not. Then apply a firm bandage of clean old linen rag. If the bleeding from a cut is profuse, a few turns of bandage firmly applied over the bleeding part will stop it until medical assistance arrives.

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Deadly Nightshade Poisoning

(See Poisons—*Belladonna*.)

Deafness

This may be caused by an accumulation of wax in the ear passage. This can generally be seen, and can be removed by syringing with warm water. Before doing so, 2 or 3 drops of glycerine, or bicarbonate of soda, 15 grains to the ounce of water, will, if dropped into the ears for a couple of days, twice daily, much expedite matters. Other causes of deafness are trouble in the middle ear, or catarrh of the Eustachian tube, both of which require skilled medical attention.

Deaf and Dumb

When a child is born deaf, or becomes deaf before it has learned to talk, it is said to be deaf and dumb, or a deaf-mute. In some cases the child is deaf from a disease which has also rendered it intellectually stupid; but as a rule a child becomes a mute only because it has never heard the sound of speech. In such a case the child has no idea of what spoken language is. It was once supposed that most mutes were born deaf, but this is not the case, one half in some schools being known to have been born with power to hear. Deaf-dumbness may be hereditary. This has been noted in a family where the mother was very deaf; all the children were all but deaf, and some of them so deaf and at so early an age as to be dumb. In such cases there may be a grave doubt as to the propriety of members of such a family marrying and thus running the risk of propagating a mute stock. This should be one of the considerations in the intermarriage of relations, especially if among the latter there should be either a tendency to deafness or to deaf-dumbness. When deaf-dumbness is plainly due to an accident or to disease in infancy, without there being any other cases of deaf-muteness in the family, or any signs of catarrhal deafness, there would be no danger of transmitting the defect to posterity.

Education of the Deaf and Dumb.—Physicians are constantly called on to decide whether a child is deaf and dumb, and if it be, to suggest a cure if possible, and if not, to advise a plan for the proper education of the little patient. In very young children it cannot always be readily decided whether total deafness, and hence prospective dumbness, exists or not. Without being obliged to determine whether the child is totally deaf, a physician may find, on examination, that it is too deaf to learn to talk by hearing others speak and, with-

out further losing time, he should advise its parents to arrange for its proper education in another way. The education of deaf-mutes is accomplished by the use of signs, or "finger language," and by the means of "lip-reading," and phonetic writing or visible speech. Before describing these methods it must be borne in mind that it is not our object to advocate any one method to the exclusion of the others. It is believed that all have advantages and disadvantages. The only object in alluding to these various methods is to let parents know what can be done for their children afflicted with deaf-dumbness. The sign-language is the most common form of communication in the institutions for the mute in the United Kingdom. It has been found that where this form of language is used, no other method can be successfully introduced at the same time. Lip-reading is the ability on the part of the mute to understand what is said to him by watching the lips of the speaker; it is taught very largely in Germany and is often called the German method. By this system, also, the dumb are taught to speak as well as to understand speech. Their articulation, of course, is not like ours, being peculiar and unnatural in sound, yet entirely intelligible. The writer has conversed in ordinary tones, in German, with German deaf and dumb children in Vienna, and was perfectly understood by them, the children replying in German that they perceived he was a foreigner, so delicate was their perception of the motion of the lips. Phonetic writing, or visible speech, the system of A. Melville Bell, is based on the physiological action and position of the vocal organs during speech, and is practically an alphabet of sounds, in which the symbols, either printed or written on the blackboard, inform the child how to place its lips, tongue and palate, and produce a vocal sound. It has been successfully employed in the United Kingdom and in America. Lip-reading and visible speech may be of great value in the education of children who have become deaf after having learned to talk in the first 4 or 5 years of life. Their conception of what speech is and their ability to use it are invaluable aids in their further education by means of lip-reading and articulation, or by visible speech. Hence, no matter how deaf a child may become after it has once learned to talk, it should be discouraged in the use of dumb signs and encouraged to go on talking. It is desirable that a mute who is to be taught lip-reading and talking should

begin his exercises before he is 7 years old. It will then require about 8 years of study and practice in this way, but at the end of that time he will be able in most cases to converse with and understand anyone he meets.

There is a large number of deaf children who are by no means deaf and dumb, having lost their hearing after they had learnt to talk. After a child has once learned to talk, no matter how deaf it may become, it should be encouraged in every way to continue to use speech and not signs in communicating with friends and family. In order to induce him to continue to speak, his signs must be disregarded. All children who grow deaf will soon begin to make signs, and, unfortunately, the latter are encouraged, by being answered in the same way. It would be very easy to make such a child look at the mouth and understand the signs made by the lips. But many children are too hard of hearing to escape being under disadvantages at ordinary schools, where they are competing with hearing children. Such children, on account of their bad hearing, are often imposed upon both by companions and instructors. Do as they may, such children must fall behind in their studies. But it is not desirable to isolate these unfortunate children in separate classes, because it not only draws painful attention to them, but it is highly desirable that they should continue their studies among those with whom their lives are to be spent. Nevertheless, some allowance should be made for their defective hearing. The first step in this direction is to find out whether the child is deaf or inattentive; if he is deaf, he cannot fail to be inattentive. A child is, as a rule, unaware of his defective hearing, especially a young child, at the beginning of his deafness; it is, therefore, the duty of his elders to find out and determine the amount of his deficiency.

Death

Signs of Death.—(1) Complete and continued cessation of respiration; (2) Complete and continued cessation of the heart-beat; Loss of the eye reflexes. Within an hour or so of death the eyes should be closed, a four-tailed bandage should be applied to the jaw to keep the mouth closed and the limbs should be straightened out.

Decay, Dental

(See p. 213.)

Delirium

Delirium is a symptom which implies acute temporary exalted disorder of the mind, varying from slight incoherence to complete and violent insanity. The condition may arise either from organic disease of the brain or its covering, or from a poisoned condition of the blood, as in acute inflammatory diseases, or in alcohol poisoning. It may also occur in connexion with acute mania, or nervous exhaustion. Beyond applying cold to the head, and the avoidance of light and noise, the treatment of delirium must be left entirely to medical men.

Delirium Tremens

is a condition which supervenes in chronic alcoholic soakers, either when they have been suddenly deprived of alcohol or its amount has been much diminished or when they have been the subject of some accident or injury. It is characterized by excitement, which may be extreme, hallucinations, tremor, restlessness and sleeplessness. The patient may become violent, he sees snakes and rats and black things crawling over the sheets, he hears imaginary voices, starts up in bed shouting out and is often very troublesome to manage. The tongue is coated and tremulous and the bowels constipated.

Treatment.—Most authorities agree that the quickest cure lies in stopping alcohol altogether and watching the heart's action, stimulating it if necessary with digitalis, ether, strychnine or camphor. At the outset give 5 grains of calomel, put the patient to bed and keep him there in charge of one or two reliable nurses. If sleepless give a good dose of bromide, or a hot bath. Patients die from the exhaustion caused by excitement, from lack of nourishment due to the difficulty in feeding them and from lack of sleep. The heart has almost certainly been already damaged by alcohol and succumbs the more readily.

Dental Decay

(See p. 213.)

Derbyshire Neck

(See Goitre.)

Diabetes

Diabetes is a disease characterized by the presence of sugar in the urine; the quantity of urine passed is increased and

the patient suffers from thirst and wasting. It may occur at any age, but is much more serious in young people than in old. Many elderly people have a small percentage of sugar in their urine and live comfortable and happy lives, but in people under 30 years of age the disease runs a fairly rapid course.

Cause.—The cause of diabetes is now known to be situated in the pancreas, certain cells in which are found missing or altered. Diabetes can be produced by a partial removal of the pancreas. It is more often found in the Jewish race than in others and also in fat people who do not take sufficient exercise. Several members of a family may be affected and there is some evidence that it is hereditary. The disease is often insidious in onset, and the symptoms vary according to the amount of sugar lost in the urine. If a large quantity, the thirst, appetite for food, wasting and dryness of the skin are marked; if a small quantity these symptoms are trivial.

Treatment is still mainly dietetic. Starchy foods are more readily converted into sugar than proteids and fats and therefore should be diminished in amount, but it is impossible to exclude them entirely from the dietary without harm to the patient.

There are many dietaries recommended, but the choice of one must be left to the doctor in charge of the case and the effect of different articles and different quantities of the constituents must be gauged by the effect on the sugar content of the urine. Briefly the articles of diet allowed and forbidden are as follows :—

Allowed.—Clear soups, fish, meats, eggs, cream, butter, cheese, greens, spinach vegetables generally (except those stated below), nuts of all kinds, whipped cream, custards, milk, tea, coffee, cocoa.

Forbidden.—Starchy foods and sugar; rice, tapioca, sago, arrowroot, cornflour, potatoes, peas, beans, parsnips, beetroot, carrots, Spanish onions; pastry and puddings of all kinds, fruits of all kinds (except strawberries, raspberries, currants, peaches, nectarines, in small quantity only); ale, stout, port, champagne, liqueurs and cider. The crux of the diet is always bread. This may be given in small quantity and its effect watched, or if the case is severe such substitutes as gluten, bran and almond bread may be given.

Insulin.—This substance, derived from the pancreas of the

ox, has revolutionized treatment. Except in severe or urgent cases of coma, blood sugar estimations must be made and the dosage and diet regulated by the findings. Overdosage may produce a condition called hypoglycæmia with sensations of nervousness, sweating, inertia, and finally unconsciousness. Give barley sugar or glucose.

Diarrhœa

Diarrhœa is produced by some irritant in the bowel, either chemical or microbic, or is due to some reflex nervous cause.

As instances of chemical irritants, purgatives might be mentioned which, given in sufficient quantity, will produce diarrhœa, also unripe fruit, undigested or unsuitable articles of diet.

As instances of microbic irritants, the cholera microbe, typhoid fever bacillus, the tubercle bacillus in tuberculous enteritis, and the bacillus giving rise to infantile diarrhœa which is conveyed by contaminated milk infected by the house fly.

As instances of diarrhœa of nervous origin, may be mentioned that found in infants while teething and in candidates undergoing examination.

Treatment.—The three principles in the treatment of diarrhœa are warmth, rest, and the removal of the cause. A mild purgative is often useful at the onset as helping to remove more quickly the irritant. Put the patient to bed and keep him warm with hot-water bottles, and give a very light diet, all fluid being given cold. It is as dangerous to stop diarrhœa with opium as it is to stop a cough by the same means.

Diphtheria

This disease is characterized by sore throat and fever, which begins insidiously, and by enlargement and tenderness of the glands under the angle of the jaw. Examination of the throat will show the uvula red and swollen, and the tonsils much inflamed, with creamy patches of membrane on them. There may be croupous breathing, owing to the larynx being involved. Medical assistance must be called in immediately, as the recovery or death of the patient may be determined by the quickness with which treatment is applied.

Treatment.—Success in the treatment of diphtheria depends on the early administration of anti-toxin.

In view of the infectiousness of the disease, the patient must be isolated, a carbolized sheet being hung over the room door ; a carbolic spray should be frequently used about the room, and the attendants must be careful not to inhale the patient's breath. As a precautionary measure, they should use an antiseptic gargle or mouthwash themselves, remembering that being careful does not mean being cowardly. A steam kettle is useful, in keeping the atmosphere of room moist and warm.

In view of the seriousness of this disease, immunization should be taken advantage of. It is now very safe and reliable and should be done on the child's first birthday.

Dislocations

Symptoms.—The limb is stiff and there is a noticeable difference in length and shape between it and the limb on the opposite side. The rounded end of the displaced bone may sometimes be felt. Dislocations always occur at a joint.

If medical assistance is at hand do not touch a dislocation ; merely support the limb in the position of greatest comfort, until the arrival of the doctor. If skilled assistance cannot be had, get someone to steady the body or the part of the limb nearest the body, and use gentle, steady extension upon that farthest removed until the parts are again in apposition. This should never be attempted by anyone unacquainted with the necessary manipulations. Then apply cooling lotions to the injured joint, and keep the limb in proper position by means of slings and bandages.

Dog-Bites

Treatment.—It is best to seek medical aid at once. The wound must be thoroughly cleaned with carbolic lotion 1 in 20. It should then be cauterized with lunar caustic or a red-hot wire, and bandaged up. Stimulants, such as the spirits of sal volatile in teaspoonful doses in water may be given every 2 or 3 hours.

Dropsy

Dropsy is shown by swelling of the extremities, especially the ankles, and wherever loose tissue is found, as round the eyes, the scrotum and the sacrum. It may be due to heart disease, Bright's disease or disease of the liver, and must be treated by a medical man.

Drowning

Send at once for a doctor, hot flannels, blankets, etc. Immediate and continued artificial respiration is the essential point, and Schaefer's method should be employed. Loosen the clothing about the neck and chest, the braces or stays. Place the patient face downwards. Roll up a coat and place it underneath the lower part of the patient's chest, get astride of the patient in a kneeling position and clasp the sides and back of the lower part of the chest. Then firmly but slowly throw the weight forwards so as to compress the chest. Then allow the chest to expand. This should be repeated about every 4 seconds. When breathing is restored, rub the limbs upwards with firm grasping pressure and energy, to drive the blood along the veins to the heart, using handkerchiefs, flannels, etc. Apply hot flannels, hot bottles, bladders of hot water, or heated bricks to the pit of the stomach, the armpits, between the thighs and to the soles of the feet, or, if these are not available, cover the limbs when dried and rubbed warm, with coats, waistcoats, or any articles of clothing to hand. On the restoration of vitality a teaspoonful of warm water should be given, and then small quantities of warm coffee.

Drunkenness

(See Intoxication.)

Dysentery

Unlike diarrhoea dysentery is a disease, not merely a symptom. It is uncommon in England, and is a disease of the tropics or sub-tropics. There are two varieties: Amoebic and bacillary.

Symptoms.—There is generally a varying amount of fever, with corresponding constitutional disturbance. The characteristic manifestations of the disease are distressing, twisting, colicky pains in the abdomen, with a constant tormenting desire to have the bowels moved, and violent straining and bearing-down pains; these efforts resulting in the passage of small amounts of mucus or blood, or these commingled—often nothing more. The dysenteric symptoms are usually preceded for a few days by diarrhoea.

Treatment.—The case should at once be placed in skilled medical hands.

Diet.—Plenty of fluid should be given, chiefly water. Milk should not be given at first, and no solid food for some time.

Albumen water, whey and a little grape-juice may be given.

In Amœbic Dysentery.—A course of emetine injections is necessary. In both amœbic and bacillary dysentery the free stimulation of one of the saline aperients usually has a remarkably beneficial influence. One teaspoonful every 3 hours at first may be given. The action of the salts produces a flushing of the intestinal tract, and the motions soon become watery.

Dyspepsia

This is a synonym for Indigestion.

Earache

Sponges wrung out of hot water should be applied over and behind the ear. If the pain is persistent for more than 1 day, medical attention should be procured.

Ear Discharge

The ear should be gently syringed with warm water, in which a little boracic acid has been dissolved, a teaspoonful to a teacupful of water. A little of the same powder should be afterwards puffed into the ear.

Syringing the Ear.—A few directions respecting this important manipulation may be given. The first injunction is never to use cold water in the syringe. A short, hard rubber syringe, such as can be obtained at many of our chemists' shops, is about the best kind for general use. This should move easily without jerks. An ordinary finger-bowl may be employed not only to hold the warm water, but to catch the current as it returns from the ear. The patient can easily hold this vessel against his cheek during the syringing, unless it be an infant, when a large towel under the ear will catch the return current from the syringe. The syringer should take the auricle at its upper-back edge, between two fingers, and draw it gently upwards and backwards, to straighten the cartilaginous part of the auditory canal and facilitate the entrance of the water. The nozzle of the syringe, held close to the ear, should then be directed backwards and forwards, to convey the water to the depth of the canal of the ear. Avoid injecting the water with undue force. A few drops of warm sweet-oil will often cause any insect in the ear to crawl out; if not, it will smother it and the creature will float to the surface of the fluid and can then be easily removed from the ear.

Ear, Foreign Bodies in
(See Foreign Bodies.)

Eczema

The name of eczema is applied rather widely, to cover several conditions of the skin. As a rule, however, it is limited to two varieties, dry or wet.

The treatment of eczema varies according to the stage which the disease has reached. In the earlier stages, when the skin is moist, hot and red, lotions should be used to soothe and cool it. Such preparations as the various lotions of borax, bicarbonate of soda, and lead, used either alone or in conjunction with powders of an absorbent nature, will be found of use. At all stages the use of soap should be avoided. When the eruption is decreasing, mild mercurial ointments, such as ung. hyd. ammon., 5 grains to the oz., often do good; at the dry and itching stage, when the skin becomes rough and scaly, pitch, creasote, and all the tarry applications are useful. Poulticing, or soaking with oil, will remove the crusts, and the ointment should then be applied on strips of lint. Poulticing should be resorted to as little as possible, and washing in water always does harm. When cleansing is necessary a little milk will be found to answer the purpose with the minimum of pain and harm. Eczema often lasts a long while, and even when apparently cured frequently recurs again and again. Any local irritation will cause it, as with varicose veins, dyspepsia, and gout.

Elastic Bandages

must be tight enough to support the veins, but not so tight as to impede the circulation. When used on the leg, they should be put on with the patient lying down, and from below upwards. (See also paragraphs under Bandages and Varicose Veins.)

Electric Shock

Send immediately for medical assistance, and before attempting to move a person in contact with an electric current, stand, if possible, on some *dry* non-conductive material such as rubber, wood or clothing. Should no such material be available, remove the person by means of a *dry* wooden stick, or some other non-conductive article. The patient must be

given full access to the air, and laid on his back or side. Clothing should be loosened, and artificial respiration applied (*see* Drowning).

Embrocations and Liniments

These preparations have the consistence of oil. They are more active than ointments and act as local stimulants, relieving deep-seated pain and inflammation.

Chilblain Liniment.—Take 1 oz. of camphorated spirits of wine; $\frac{1}{2}$ oz. of solution of subacetate of lead, or Goulard's extract. Mix and apply 3 or 4 times a day.

Strong Stimulating Liniment.—Take of strong liniment of ammonia, $1\frac{1}{2}$ oz.; oil of turpentine, $\frac{1}{2}$ oz.; mix. This is an excellent rubefacient liniment, and is useful in chronic rheumatic affections.

Emetics

are used to induce vomiting when it is necessary to empty the stomach. Ipecacuanha wine is one of the safest for children, given in repeated teaspoonful doses until sickness is induced. A handful of salt, or a tablespoonful of mustard freely diluted with water and followed by copious draughts of warm water are useful. 15 grains of sulphate of zinc and 5 of ipecacuanha taken with lukewarm water is another safe emetic, but tickling the back of the throat with a feather or finger is often equally efficacious. (*See also* Poisons.)

Emphysema

Permanent dilatation of the air-cells of the lungs is known as "Emphysema." It occurs as a result of the loss of elasticity in the walls of the air-cells, due to chronic diseases of the lungs, such as bronchitis, accompanied by frequent and violent coughing. It may occur also as a result of blowing wind instruments which entails violent expiratory effort against resistance and thus stretches the lung tissue.

Symptoms are chiefly shortness of breath on exertion and, if severe, a certain amount of blueness of the face and lips, due to deficient aeration. There is an increased liability to bronchitis. The condition is permanent.

The treatment should be aimed at improving the general health of the patient, and by guarding against bronchitis and other diseases likely to aggravate the symptoms.

Empyema

Between the lungs and the chest-wall is a sac known as the pleural cavity, the walls of which, in a state of health, are in contact with one another, secreting a lubricatory fluid which enables the lungs to move freely within the chest-wall. In disease, however, this cavity may become filled with purulent fluid, or matter, and we then have the condition of "Empyema." It occurs at all ages and is very common in children. The symptoms are not always very distinctive; there is usually irregular fever, and a gradually increasing weakness and pallor; cough may, or may not be present, and there may be little pain. If left to itself, empyema frequently ends fatally by perforation of the lungs or by blood-poisoning; as soon as the condition has been recognized, an opening should be made in the chest-wall by a surgeon and the matter released.

Enema

When food or medicine is introduced in a fluid form into the lower bowel, it is termed an enema, or, in older phraseology, a clyster. The best way to give an enema is to place the patient on his left side, so near the edge of the bed that part of his body may project over it. The pillow must be removed to keep his head low—the head lying towards the centre of the bed—and in order to give proper height to the hips the pillow should be doubled and laid beneath them, the object being to enable the liquid to pass up into the bowel by its own weight and also to be retained as long as possible. A waterproof sheet should be placed over all the bedding and other materials on which the patient is lying. The nozzle of the Higginson's syringe (the best type to use), which should not be more than 3 inches long, should be anointed with vaseline and inserted very gently into the bowel, and the soap and water (or other enema) slowly admitted. Should the water return too soon, the buttocks must be pressed together round the nozzle. When the enema has been introduced the patient must remain quiet and make no effort at expulsion, leaving this entirely to the action of the enema. As there will be a natural inclination to expel, the patient must be cautioned to try to retain the enema so that it may act for itself. If a nurse is not in attendance and there be any doubt as to how the enema should be administered, the safest plan will be to ask the doctor to give it. An enema may be employed with advantage in cases of

prolonged constipation, when it is better and easier to act upon the hardened mass from below than from above. Many substances may be employed, but there is none better than plain soap and water. If this does not succeed, $\frac{1}{2}$ oz. of castor-oil and $\frac{1}{2}$ oz. of turpentine may be beaten up with an egg and a pint of hot water added. In making use of enemata for this purpose, not less than a pint should be used; for the normal stimulus to the bowel to act is distension. If, on the other hand, it is desired that the enema should be retained instead of being expelled, the smaller the quantity used the better. This is the case when from disease of the stomach it is impossible or unadvisable to give food that way, and small quantities of beef-tea, etc., may be thrown up the bowel. Then not more than a couple of ounces should be used at a time. Enemata, we have stated, are given either to relieve or control the bowels, or for the purpose of nourishing a patient not able to take food by the mouth. For the first purpose, from 1 to 2 pints of liquid may be used; warm soapsuds, with castor-oil or sweet-oil, in such proportions as the doctor may order; or, where diarrhoea is to be controlled, less fluid, probably thin starch mixed with cold water, and some astringent or opiate, as 30 drops of laudanum; in all cases the doctor's directions must be asked and followed. For nourishment, various things may be given: beef-tea, milk and brandy, strong soups, beef-juice and brandy, etc., as prescribed; but for nourishing enemata not more than 2 ounces should be given. More than this may simply irritate and not be retained: therefore at times it may not be expedient to administer more than 1 oz. The fluid must be retained as long as possible and no effort made to discharge it.

Oil Enema.—Either sweet- or castor-oil given clear, 6 to 8 oz.

Salt Enema.—Give $1\frac{1}{2}$ oz. of salt in 1 pint of gruel, warmed.

Enlarged Glands

These are nearly always due to some source of irritation in the neighbourhood of the glands. In the case of enlarged glands in the neck, trouble will be found in the scalp, ear, nose, or throat.

Treatment.—First attend to the exciting cause. In some delicate children, glands enlarge very readily. Cod-liver oil, tonics, plenty of fresh air, good feeding and warm clothing are

required, with a change of air if possible. The disappearance of the glands may be accelerated by painting them with tincture of iodine. If the glands become red, painful and inflamed, medical advice should be at once obtained.

Enteric or Typhoid Fever

Typhoid or enteric fever is a continuous and infectious fever, caused chiefly by drinking water contaminated with sewage containing the bacillus of this disease, lasting an uncertain period of from 4 to 6 weeks, and sometimes followed by a relapse. It is also known by the names of low, gastric, and drain fever. It seems to have been known from the earliest times. It is always endemic in the British Isles, but is perhaps most common in England.

Causes.—The principal cause of typhoid fever is drinking contaminated water. It may, however, be transmitted by flies, which after settling on infected excreta contaminate food, or, if those in charge of the sick neglect ordinary sanitary precautions, the bacilli may be transferred by them to food or drink. It is practically certain that the disease cannot be contracted from breathing the emanations from sewers. In India and hot, dry climates the dust containing bacilli may be blown on to food and thus lead to infection.

Typhoid fever attacks young people more readily than old ones, but both sexes and all classes alike are attacked if exposed to infection. Outbreaks of this disease in hospitals, asylums and other institutions have been traced to "carriers," i.e. people who have had the disease perhaps many years before but whose stools still contain the typhoid bacillus in an active form. These people are perfectly well in themselves and it is only by microscopic analysis of their stools that evidence of their infection can be obtained. Once the "carrier" is isolated the outbreak can be readily stamped out. Typhoid fever has always been the scourge of armies. During the South African war more men died from typhoid fever than from wounds. In the Great War, owing to protective inoculation and increased care in ensuring the purity of drinking water, the disease was almost unknown.

Nurses should take care to wash and disinfect their hands after all attentions to patients.

Symptoms.—The onset of typhoid fever is always very gradual and insidious; it begins with an "out of sorts"

feeling, aching pains in the limbs, headache, loss of appetite and chilliness. For many days the sufferer is able to go about and think there is not much the matter. Sometimes there is diarrhoea. Then the pulse is quicker, the skin hot, and the tongue red and dry. At the end of the first week or later he is feverish, has no appetite, is thirsty, and the bowels are generally relaxed. The urine is scanty and high-coloured; there is still more restlessness at night. Between the seventh and twelfth day an eruption, consisting of a few slightly-raised rose-coloured spots, makes its appearance. They are generally situated on the abdomen and chest, but they may occur over the whole body. These disappear in 2 or 3 days, but fresh crops come in their place. Pain may be experienced, and gurgling felt on pressing over the right side of the abdomen. About the middle of the second week delirium comes on. The tongue is dry, red and glazed, and often cracked. As the disease advances the patient loses flesh and strength; he lies prostrate and perhaps almost unconscious, and, if it is to end fatally, he will become quite insensible, have a high temperature, and fumble at the bed-clothes. If the disease progresses favourably the symptoms abate during the fourth week, the temperature gradually falls to normal and the patient slowly recovers.

Complications.—Diarrhoea may be profuse and exhaust the patient. Bleeding from the nose may occur, but is not often a bad symptom; bleeding from the bowel is common and, if large in amount, is of serious import. Perforation of the bowel may occur from an error in diet; it is attended by collapse and is very dangerous. Inflammation of the peritoneum adds greatly to the danger. Bronchitis and pneumonia may supervene and increase the mischief.

Treatment.—Place the patient in a well-ventilated room. Remove all curtains, carpets and bed-hangings. Prevent exertion on the part of the patient. The greatest cleanliness must be observed, and all excreta removed at once, perchloride of mercury, carbolic acid, chloride of lime, or other disinfectant being mixed with them. The diarrhoea need not be checked unless excessive, and then a little starch injection may be made. The diet must be very light, and no solid food should be taken under 6 weeks or 2 months, because in consequence of the ulceration of the bowels the coats are very thin and liable to burst. Absolutely nothing should be given to

the patient beyond what has been ordered by the medical attendant. Milk must form the main article of diet, and then an egg or two may be beaten up in it, or a custard may be given and beef-tea. If there is much intestinal distension hot flannels sprinkled with turpentine will be useful.

Epilepsy

The cause of Epilepsy is not certainly known. Sufferers should always seek medical advice.

Symptoms.—The patient falls unconscious (usually preceded by a peculiar scream or cry). He becomes rigid, holds his breath, and his face turns livid. After about half a minute, convulsions come on, the eyes roll, foam issues from the mouth and the tongue may be bitten. Urine and fæces are sometimes passed involuntarily. This may last from 1 to 4 minutes, when the convulsions cease and the patient recovers, feeling weak and dazed, after which he will frequently sleep soundly for several hours.

Treatment.—At the onset of a fit the patient should be caught, if possible, in the arms of a bystander and laid gently down upon his back, with something placed under his head for a pillow, and everything tight should be loosened or removed from his neck. Insert a cork, knife handle, or smooth piece of wood between the teeth to prevent the tongue being bitten, gently restrain any violent movements to prevent the patient hurting himself, and wait patiently till the fit is over. Bromide of sodium in 20-grain doses in water 2 or 3 times a day is useful.

Erysipelas

Erysipelas of the face is an infectious disease of somewhat frequent occurrence. It is rarely seen in children, but it attacks adults of both sexes. The inflammation itself is produced by a micro-organism growing in the skin. The organism usually gains an entry into the system through the mucous membrane of the nose, eye or ear. It may spread from the pharynx. While only mildly infectious in ordinary cases, erysipelas is very likely to infect persons suffering from unhealed wounds of any kind. Hence great care should be taken to avoid exposing such persons to the risk of infection.

Symptoms.—The disease usually begins at the ear or one side of the nose, and redness and swelling extend over that side of the face; more rarely it crosses over the median line and

affects the whole of the upper part of the face. Pain and tingling precede the inflammation, and when the latter has reached its height, the eyelid is so swollen that it cannot be opened; the ear is large, red and flabby, while the skin adjacent is swollen, red and painful. Erysipelas is, in fact, an inflammation of the skin, and it is severe according to the depth to which this tissue is implicated. Sometimes only the upper layer is affected, and then the appearance is like that seen in *erythema*, diffused redness of the skin produced by capillary congestion. There is but slight swelling, and the constitutional symptoms are not severe. But if the whole thickness of the skin be attacked, and, in addition, the loose cellular tissue underneath, then the inflammation is of graver import, and may spread over a large area. A high temperature, quick pulse, thirst, often a sore throat, loss of appetite and a thickly-coated tongue, are among the earliest symptoms. The patient feels very restless and sleeps badly at night: in many cases delirium comes on towards evening: mostly observed in those previously addicted to intemperate habits. The bowels are often constipated, and the urine high-coloured and containing a little albumen. Erysipelas of the face without other complications usually runs a course of 6 or 7 days, when the temperature rapidly runs down, the tongue begins to clean, and all the febrile symptoms disappear, leaving the patient weak and anæmic. If, however, the inflammation has affected the deeper layers of the skin, or if the patient has been previously in bad health, matter or pus may form beneath the scalp through the spreading of the disease upwards: when this occurs the pus soon burrows about under the scalp, and an opening must be made to allow the matter to discharge.

Treatment.—The patient must be kept in bed and fed on light and nourishing diet. The light should be kept from his eyes and access of air to the inflamed skin prevented by dusting the surface with flour, or smearing the part gently with a mixture of equal parts of castor-oil and collodion, or castor-oil alone. This effectually keeps off the air and relieves the tightly-stretched skin. Some opening medicine may be given at first, if constipation is present and the tongue is much coated. Steel-drops are a useful medicine in this disease: they should be given in doses of from 15 to 20 drops, with the same quantity of glycerine, in a little water, every 3 or 4 hours. Larger doses are frequently administered, but it is

better not to give these unless ordered by a medical man. Erysipelas is now nearly always cured by M & B. During convalescence, tonics containing iron and quinine may be given ; and for some time all exposure to cold winds, etc., should be avoided.

Erysipelas, Surgical

The microbe of erysipelas (*streptococcus erysipelatis*) occasionally infects open wounds, causing symptoms similar to those of a severe facial attack.

Evaporating Lotions

(See Lotions.)

Eye, Foreign Bodies in the

(See Foreign Bodies.)

Eyes

Sore or inflamed eyes should be bathed with boracic acid lotion (a teaspoonful to a pint), or a very weak infusion of tea-leaves. (See also Foreign Bodies in the Eye, Specks before the Eyes, and Tired Eyes.)

Face Burning

Exposure of the complexion to intense sun or to snow reflection, as in Alpine climbing, may produce severe burning and blistering. Preventive measures should be taken, the best of which is to coat the face thickly with cold cream or prepared lard. Severe burning may require treatment by powdering the face with boracic acid powder, or flour, and wearing a linen mask, to prevent exposure to the air. Glycerine and cucumber and glycerine are useful for mild cases, such as are frequently caused by much motoring.

Fainting

In this affection there is pallor of the face, coldness, perspiration ; feeble, shallow and irregular breathing ; noises in the ears ; indistinctness of vision, and giddiness.

Treatment.—A fainting fit can frequently be prevented if the patient is told to sit in a chair and his head is then gently

pressed down on a level with his knees. Another method is to lay the patient upon the back, remove all constricting articles of clothing from about the neck, and apply strong smelling salts to the nostrils; sprinkle cold water over the face, and give a dose of $\frac{1}{2}$ teaspoonful of spirit of sal volatile in a little water.

Falling Hair

(See Baldness.)

Fatty Degeneration of the Liver

(See Liver.)

Feet, Cold

Soak the feet in very hot water on retiring, then plunge them into cold water. Repeat the process several times, finishing with the cold water, and dry thoroughly with a rough towel.

Feet, Tired

Into an ordinary foot-bath dissolve $\frac{1}{2}$ oz. powdered alum, $\frac{1}{2}$ dr. sulphate of zinc in water as hot as can possibly be endured. Soak the feet for 10 minutes, then thoroughly dry. Dust the feet and also inside the stockings with boracic powder 1 part, powdered starch 2 parts, powdered French chalk 1 part, to which is added a few drops of eucalyptus oil.

Fever

(See Hay, Enteric, Scarlet, Typhus, etc., etc.)

Feverishness

Symptoms.—Headache, dry, hot skin, flushed face, quick pulse, high-coloured and scanty urine, a foul tongue, with thirst and loss of appetite.

Treatment.—Keep the patient quiet in bed in a well-ventilated room. Sponging with cold vinegar and water, or spirits and water, gives relief. Cool and slightly acid drinks may be given in moderation, magnesia, Rochelle salt, the solution of citrate of magnesia are useful. If the attack does not pass away soon, medical advice should be taken, in case the feverishness be the forerunner of more serious fever. (See Enteric, Scarlet, Typhus, etc.)

Fits

(See Apoplectic, Epilepsy, Fainting, Sunstroke, Hysterics, etc.).

Flat-Foot

As a result of general debility, especially in rickety children, the muscles and ligaments of the foot become weakened, with the result that the arch of the foot becomes flattened, and what is known as Flat-foot is the result. The condition is accentuated by the wearing of ill-fitting boots, and by over-much standing; as a consequence all elasticity of the foot is lost, the patient is unable to walk long distances, and quickly becomes tired. In the way of treatment the first thing to do is to support the arch of the foot by means of a suitable sock placed in the boot, but this of itself will be of little use unless it is accompanied by regular exercises taken twice daily. Suitable exercises are those suggested by Dr. Grimshaw, viz.:—

1. Turn the feet inwards against resistance. (This is best done by the hands of another person.)
2. Rise on the toes with the feet close together.
3. Rise on the toes but separate the heels as they rise, the toes being kept together.
4. Walk on the outer border of the foot.
5. Sit on the floor in a cross-legged position with the outer border of the feet resting on the ground; this will relieve the strain on the instep, and be a comfortable position.
6. Standing, lift the toes alternately from the ground, quickly repeating until tired.
7. Skipping, and running on the toes should be encouraged. All will improve the condition of the feet and develop a good instep.

As far as possible, especially when at home, sandals should be worn instead of boots, and all boots and shoes should be specially made the shape of the natural human foot; practically all boots worn allow insufficient room for the proper use of the toes. Mrs. Archibald Little quotes the case of a gentleman who has solved the problem thus presented by having one toe cut off each foot. He said he saw no use for it, and it always gave him pain whenever he had to wear boots, so he preferred amputation once for all. If this method is not adopted the simple and obvious plan seems to be to leave the toes room!

✓ Flatulence

Flatulence is an undue collection of gas or air in the stomach or bowel, generally arising from the decomposition of unsuitable foods, or from the irritation of the walls of the stomach, etc., when in an enfeebled state. It is a common and very unpleasant symptom of indigestion or dyspepsia. In a great number of instances it is due solely to temporary errors of diet, and disappears on correction. The abuse of certain articles of food, and especially of tea, is responsible for much persistent flatulence.

Symptoms.—Often there is pain on the left side over the heart, and some palpitation. There may be a feeling of faintness, giddiness or choking. Eructation is also a frequent symptom.

Treatment.—Flatulence is best treated by dieting, keeping mainly to solid food, with stale bread, or, better still, toast. Vegetables, pastry, tea and beer should be avoided. The offending article of food, if known, should of course be relinquished. Spirituous liquors should be avoided. Flatulence may often be only the symptom of dyspepsia. It may be relieved temporarily by a slight stimulant, such as aromatic spirits of ammonia, or by 15 drops of sal volatile in water every hour or two. The following may be used with benefit : 3 drachms of bicarbonate of potash, or the same of bicarbonate of soda, 1 oz. of the concentrated infusion of calumba, and sufficient peppermint water added to make 8 oz. A tablespoonful of this mixture to be taken 3 times a day in water. From 1 to 2 drachms of tincture of nux vomica, with 1 oz. of the concentrated infusion of calumba and water as before added to make 8 oz., is another useful combination. This mixture should be taken in tablespoonful doses as the other. From 2 to 5 drops of pure terebene, taken on a lump of sugar and repeated 2 or 3 times a day, is also a most useful remedy. The best beverages for flatulent subjects are weak cocoa essences, and hot water with a little lemon-juice. It is a good plan to take "dry" meals, i.e. to drink no fluid with the principal meals but to take what fluid is required two hours or so after meals.

Fomentations

A fomentation is an external application of a hot fluid, generally by means of a flannel, to some affected internal organ

such as the throat, or to the muscles round a joint, with the object of procuring relief of pain by exciting a greater flow of blood to the skin covering the affected part. What the hot bath is to the whole body, indeed, the fomentation is to a part. The swelling which accompanies inflammation is rendered much less painful by fomentation, owing to the greater readiness with which the skin yields when moist than when it is harsh and dry. As the real agent of relief is the heat, the fomentation should be applied as hot as it can comfortably be borne, and to ensure the most beneficial effect should be repeated every hour.

Boracic Fomentations.—May be made with boracic lint; that is, lint impregnated with boracic acid. A piece of this lint, of suitable size, is wrapped in a cloth, and wrung out in boiling water. It is then applied to the part, and covered with protective wool, and a bandage.

Boracic fomentations should always be used in preference to bread or linseed poultices in cases of poisoned fingers, whitlows, abscesses, boils, etc. They do not retain the heat quite so long, but, on the other hand, are much cleaner than poultices, which become very offensive if the skin breaks or discharge is present.

Boroglyceride Fomentations.—Are made by wringing out ordinary lint in a solution composed of 1 teaspoonful of boroglyceride to 1 pint of boiling water. Apply as above.

Hot-water Fomentations.—The best application of this kind is made by wringing coarse flannel—by means of two sticks turned in opposite directions—out of boiling water, and, shaking it up, applying it lightly to the part. Or the steeped flannel may be placed in a towel, and the excessive water quickly twisted out. It is advisable to have two pieces of flannel ready each about 3 yards long. While one is being used, the other may be getting ready. When turpentine has to be added, lightly sprinkle it on the side next the skin. Cover the flannel used to foment with a layer of protective wool and oiled silk.

Food, Quality and Quantity

(See pp. 23, 24 and 25.)

Foods for Children

(See pp. 245, 249.)

Foreign Bodies

In the Ear.—When a child gets a foreign body of any kind into the ear, the wisest thing is to take him at once to the doctor, as much harm may be done by probing the ear with hairpins or pliers by those not well acquainted with its anatomy. Where a doctor is not available the best thing to do is to syringe the ear with warm water, unless the foreign substance is a pea or bean, which would at once commence to swell as the result of moisture, and would consequently cause great pain and become more difficult to remove. Should an insect get into the ear, the head should be held over to the other side and the ear filled with warm oil, after which the ear may be syringed with a little warm water.

In the Eye.—If the offending substance is not embedded in the globe of the eye it can generally be easily removed, either with or without everting the lid (turning the lid outwards), by using the corner of a soft pocket handkerchief, or a camel-hair pencil moistened with water or olive-oil, or by drawing the top lid down over the lower. If the substance is embedded in the globe of the eye, a camel's hair pencil dipped in water or oil may be passed over it, and an effort made to dislodge it. Should this fail, and medical assistance is not at hand, a blunt-pointed instrument may be carefully passed across the surface. The eye must not be rubbed, or permanent injury may be done. Should quick-lime get into the eye, wash it out as thoroughly as possible with water, then bathe with a lotion consisting of a teaspoonful of vinegar to a wineglassful of water, or drop a little castor-oil into the eye. In case of injury by acid, bathe with milk or 1 part of lime-water to 3 of water.

In the Nose.—Children sometimes push stones or shells or other substances up their nostrils. An attempt may be made to remove this by telling the child to keep his mouth closed and to blow hard down the blocked nostril, the free nostril being closed meanwhile by the pressure of the finger. Should the substance not be easily removed in this way no time should be lost in taking the child to a doctor.

In the Throat or Air-passage.—Morsels of food more frequently than other substances get into the larynx or trachea, the accident happening when a person is engaged in laughing or talking when the mouth is full of food. The symptoms are sudden spasmodic cough, protrusion of the eyes from the

sockets, blood or froth issuing from the mouth and nose, while the patient gasps for breath, turns black in the face, and perhaps becomes insensible. If the morsel of food be light and of small size, it is sometimes expelled during a fit of coughing. Many obstructions may find their way into the larynx and trachea—coins, cherry-stones, beans, or, in fact, anything which may happen to be in the mouth—and their presence sets up precisely similar symptoms. When such an accident happens, a spectator should at once put his forefinger down the throat and try to seize the obstruction. If this is not successful, turning the patient upside-down combined with a shaking or jogging motion, or a smart slap between the shoulders, will sometimes cause the offending article to fall from the larynx. Should respiration be still suspended, the doctor must be fetched instantly and, in the meanwhile, cold water should be flung on the chest to arouse breathing, and artificial respiration must be resorted to. The operation of laryngotomy or tracheotomy may be needed in obstinate cases. (See also Choking, and Swallowing a Stone or Coin.)

Foul Breath

This may be due to decayed teeth, disease of the nose or throat, or defective digestion. Much may be done by careful cleansing and disinfecting the mouth and nose. The following may be used as a mouthwash, or for syringing the nose: carbolic acid, 1 drachm; eau-de-Cologne or lavender water, 2 drachms; water to 8 oz. It is of primary importance to ascertain the cause of the offensive breath, and to treat that.

Foxglove Poisoning

(See Poisons.)

Fractures

There are two kinds of fractures, *simple* and *compound*, simple when there is no wound leading to the seat of fracture, and compound when the bone protrudes through the skin or a wound leads down to the break. Both simple and compound fractures may be *complicated* by the broken bone having injured arteries, veins, nerves, etc.

Symptoms.—The bone may be heard or felt to snap. There is loss of power, unnatural mobility, or alteration in the shape of a limb.

When a fracture has taken place the object is to bring the ends of the bone that has been broken as nearly as possible to the position they were in previous to the accident. In order to do this, the part nearest the body must be steadied by some one, while that furthest removed is gently stretched out, the sound limb being uncovered and observed as guide. Having got the limb into good position, splints must be applied to fix it in the position in which it has been placed and the limb must then be kept still.

In dealing with fractures immediately after they have happened, great care must be taken in moving the patients in order to prevent a simple fracture being converted into a compound one: that is, to prevent the fractured bone from injuring internal parts, or protruding through the skin. For this reason it is always best, in giving first aid, to apply temporary splints outside the clothes till the sufferer can be placed in more favourable conditions for treatment. (*See also Accidents, Bandaging, etc.*)

Freckles

There is no convenient preventive treatment when a natural predisposition to freckles exists. Such external remedies are of service in diminishing the intensity of the discoloration as act on the epidermis and thus remove the excess of colouring matter. Among these may be mentioned several preparations of mercury, subnitrate of bismuth and mild alkaline applications, as solutions of bicarbonate of soda, or of carbonate of potash. These, variously combined with emulsion of almonds and tincture of benzoin, form agreeable remedies, which should be perseveringly used. Better results are obtained by the prolonged use of mild remedies than by strong applications.

Frost-Bite

Parts most frequently affected: ear, nose, cheeks, fingers and toes. The frost-bitten part is greyish-white and insensitive.

Treatment.—Rub with snow or ice-cold water till sensation returns. Artificial warmth applied to a frost-bite will cause mortification.

Fungi Poisoning

(*See Poisons.*)

Gall Stones

(See Liver.)

Gangrene

Gangrene is the name given to the death of an extensive tract of visible tissue. The causes are many; thus gangrene may result from a severe crushing of the part, as when a limb is run over, or it may be due to continued pressure, as in the case of bed-sores, or to acute inflammation, as in carbuncles, or to excessive heat or cold, as in burns or frost-bites, or to certain changes in the blood-vessels, or in the blood, as occurs in senile gangrene, and in diabetes. The treatment of gangrene varies much according to the form and cause. As a general rule it consists in the removal by the surgeon of the dead part, together with a sufficiency of the living part adjacent to it. Every effort is also to be made to maintain a healthy and aseptic condition of the neighbouring healthy tissue. At the same time by means of suitable nourishment and other hygienic measures everything should be done to improve the general bodily health, and so increase the body's power to resist the germs of decay.

Gas & Air

Twilight Sleep has gradually fallen into disfavour. It is not without danger and requires the presence of a doctor skilled in the dosage of the drugs. A safer method of ministering to the distress of the patient having a baby is now found in the administration of nitrous oxide and air, or as it is generally known, Gas & Air. One great advantage, at least to the doctor, is that it can be given by the maternity nurse alone if she has had any training in the method, and the case does not therefore require the constant presence of the doctor. The apparatus consists of a cylinder of nitrous oxide with a rubber bag to which is attached a facepiece which the patient herself applies over her face. When she feels a pain coming she draws a deep breath from the bag. If the pain is severe she can take a very deep long breath and thus get a larger amount of gas, so that the gas is automatically regulated to the degree of the pain.

Most maternity homes have nowadays a nurse who is trained in this method, so that few women have to undergo the pangs of child-birth without its aid.

Gastritis

Symptoms.—Gastritis is inflammation of the mucous membrane of the stomach, causing pain of a burning character at the pit of the stomach, vomiting on eating and drinking, and sometimes hiccough. The pulse becomes small and feeble; the patient is pale and faint with cold extremities and damp skin; the movements of the diaphragm cause pain and consequently the breathing is short; there is tormenting thirst at times, although the water drunk is vomited at once.

Causes.—The disease may be brought on by taking into the stomach any substance which is in itself poisonous; by a large amount or great variety of food taken at one time when the constitution is feeble; or may arise when there is convalescence from serious illness. The disease is sometimes brought on by imperfect mastication of harmless food. The doctor should be called in on the appearance of the symptoms, and his directions implicitly followed.

Treatment.—Keep the patient at rest, absolutely, in bed. If cold water can be retained, it is safe to give it as a drink. If enemata are ordered, give them gently and disturb the patient's position as little as possible. The feeding will sometimes be left to the judgment of the nurse, with the general direction to give food in small quantities; and here the nurse should understand that, when the doctor has done all that he can, the life of the patient will not infrequently depend upon her patience and prudence in administering food. If there have been vomiting and inability to retain any food, do not offend the weak stomach with the quantity or quality of what is offered. Confine the diet to milk diluted with lime-water, 2 tablespoonfuls to a $\frac{1}{2}$ pint of milk. This will give all the nourishment you need to begin with. Give a teaspoonful once in half an hour. If it is kept down for 2 or 3 hours, increase the dose to a dessert-spoonful. Gradually increase the dose and lengthen the interval until 2 tablespoonfuls can be taken every 2 hours. You will have made a great gain by this time, but do not be in too great a hurry. On the slightest feeling of nausea or belching of wind, omit the dose till the sensation has gone by. If you can, by slow degrees, after 1 or 2 days bring your patient to take 2 oz. of milk and lime-water (as above) once in 2 hours, you may safely continue in this way for several days, feeling sure that he is getting considerable nourishment in the circumstances. It is always better

to shorten the interval between the dose than to increase the quantity too suddenly. From milk you may gradually go to thin gruel, made very smoothly, of rice flour, arrowroot, or corn-starch and milk. Any further change must be made only with the permission of the doctor. In giving the milk, do so slowly and do not put more than a teaspoonful into the mouth at one time. If the patient is able to drink from a cup, put the amount for one time into a small wide-lipped one, with a handle, and raise the patient a little by passing your arm under the pillow. When a sick person cannot be lifted, a glass tube through which the milk can be sucked is very useful. Keep the patient's feet and hands warm and see to the supply of pure air and an even temperature.

German Measles

(See Measles, German.)

Germes

(See p. 33.)

Giddiness

(See Bilious Attacks, Fainting, Flatulence; Indigestion, etc.)

Glanders

Glanders or farcy is an infectious disease of the horse, from which the disease is conveyed to man, usually by inoculation. In the horse the disease is marked by the formation of nodules on the nostrils and beneath the skin. When the nose is principally affected the disease is usually spoken of as glanders, when the skin is primarily concerned it is called farcy. Acute glanders commences with the general symptoms of fever; there is headache, pain in the limbs, and a sense of prostration. There are swelling and redness at the place of infection, and in a few days the lining of the nose becomes ulcerated, and from these ulcers a considerable discharge proceeds. Generally a number of pimples develop on the face and about the joints, and these soon break down into pustules. A form of pneumonia may subsequently develop. Acute glanders is invariably fatal, the patient usually dying within ten days. In acute farcy the nose is not involved, but nodules develop under the skin along the line of the lymphatic vessels. These nodules shortly break down into abscesses. Though not

invariably fatal, farcy is rarely recovered from, the patient usually dying in about a fortnight. The only line of treatment is to cut out the infected wound as early as possible, though, at any rate in the acute cases, it is practically hopeless.

Glands, Enlarged

(See Enlarged Glands.)

Gnat Bites

(See Insect Bites.)

Goitre

also called Derbyshire Neck and Bronchocele, is an enlargement of the thyroid gland in front of the windpipe. It is due to a deficiency of iodine in the diet or water. It is much more common in women than in men, and seldom found in young children. Frequently goitre is little more than a fullness or swelling at the throat. Prevention consists in Iodized Table Salt in affected districts. Sometimes removal from the native air and locality suffices to effect a cure and in any case change of scene is a necessary preliminary. Iodide of potassium, either in the form of a mixture (40 grains of the iodide; 1 oz. of syrup and orange-peel; water to 8 oz.; mix and take 2 tablespoonfuls thrice a day), or a 5-grain tabloid (thrice a day), is one of the best remedies. If it gets very big surgical operation may be necessary. The goitre known as Graves's Disease, or Exophthalmic Goitre, is characterized by palpitation, tremor, enlargement of the thyroid and protrusion of the eyeballs. The anæmia which so frequently accompanies goitre must be treated with one of the preparations of iron.

Gout

This is a disease due to an excess of uric acid in the system and characterized by the deposition of crystals of sodium biurate round the joints, especially the big toe joint, and in the lobes of the ear. The cause of gout is quite unknown. It is hereditary, or the disposition to it is, but is becoming a much rarer disease than it used to be.

Symptoms.—Pain, inflammation and swelling of the great toe joint or other joints. The affected joints are very painful and it is a most crippling disease. Many symptoms which

formerly were ascribed to gout, e.g. granular kidney, gouty eczema, etc., have now been proved to have no causal relation. This disease is very often confounded with rheumatic gout which has nothing to do with the deposition of sodium biurate crystals.

Treatment.—The treatment of gout is (a) medicinal, (b) dietetic. For medicines reliance is still, as it has been for many generations, placed in Colchicum and the alkalies. Ten to 20 drops of the wine of colchicum may be given every 4 hours, combined with citrate of potassium.

Saline aperients such as Carlsbad, Fruit Salt, or Glauber's Salts should be freely used. The sufferer should take plenty of exercise, keep the skin active and the body warm with suitable clothing.

For the local pain hot fomentations are very soothing, or lead lotion may be applied.

Diet for Gouty Persons.—The following diet table, after Haig, will be found useful by those who have a tendency to gout.

Breakfast.—A large soup-plate half full of porridge, eaten with milk and salted. A few mouthfuls of egg, prepared in various ways, or some mushrooms, tomatoes, or other vegetables, and occasionally fish.

One or two rounds of bread, or its equivalent in toast or scones, with plenty of butter.

A cup of milk, previously boiled, flavoured with tea, coffee or cocoa.

Finish with a small quantity of any fruit that is in season.

Lunch.—Potato and one other vegetable, cooked in various ways, eaten with butter, fat, or various sauces.

Pudding, tart, or stewed fruit.

Biscuit and butter, with cheese. (Biscuit, bread and bread-stuffs should be eaten in considerable quantities, to compensate for the reduction of meat.)

A little fruit as at breakfast.

For drink, a little milk, which in winter may be warm ; or water, mixed in summer with a little fruit syrup or lime-juice.

Afternoon tea.—Bread and butter and various kinds of cake, with a little milk and water flavoured with tea.

Dinner.—Soup without meat stock.

Fish or an egg, or a small bit of meat.

Two vegetables, with sauces, butter, or fat.

Any ordinary pudding, tart or stewed fruit.

Biscuit and butter, and, if the quantity of meat or fish has been small, some cheese.

A good supply of fruits as dessert.

For drink, water with fruit syrup, aerated waters, or a little milk, warm or cold. A tumbler of water, hot water or aerated water at bedtime. (*See also Rheumatic Gout.*)

Gravel

Gravel or sand in urine is due to an excess of uric acid in the system, caused by a gouty tendency, rich food, or a sluggish liver.

Treatment consists in adopting a plain, light and spare diet, avoiding sweets, creams, wines, malt liquors and much red meat, and in taking plenty of demulcent drinks, such as barley-water or milk and soda. A dose of Carlsbad salts in the morning, with a mild mercurial pill overnight will relieve the congested liver.

Gum-Boils

Gum-boils are sometimes limited to the substance of the gums, and sometimes connected with the decay of a tooth. In the first variety it is a disease of only a few days' duration, and ceases almost as soon as the boil has burst or is opened; in the second, it may continue troublesome till the tooth is extracted.

Gum-boils, when connected with an unhealthy condition of the subjacent teeth, rarely disperse without passing into suppuration, and it is, therefore, better to encourage this process by the use of warm fomentations, or cataplasms, than to repel it. An early opening of the tumour is of importance, as, from the structure of the parts concerned, the walls of the abscess are usually tough and thick, and the confined matter seldom obtains a natural exit with sufficient freedom. A little mild opening medicine every other day will be found useful, and, after the abscess has burst or been opened, washing the mouth twice or thrice a day with an astringent lotion will tend materially to make the cure permanent. 20 grains of sulphate of zinc, dissolved in $\frac{1}{2}$ pint of rose-water, will be a suitable lotion for this purpose.

Gunshot Wounds

(*See Wounds.*)

Hæmatemesis

Causes.—Hæmatemesis, or bleeding from the stomach, may result from any one of a number of causes. The two commonest causes are ulceration of the stomach walls and cirrhosis of the liver.

Symptoms.—In the former case the hæmorrhage results from the ulcer eating its way into a blood-vessel, in the latter case it is due to congestion of the stomach consequent on an obstruction of the portal blood system. Even more serious causes are cancer of the stomach, which acts in a manner similar to that of simple ulcer, and the bursting of an aneurism into the stomach. The blood is almost always vomited, and may be either in a fluid or clotted state. It is very important to distinguish between the vomiting of blood from the stomach and the coughing of blood from the lungs, as the treatment of these two conditions will naturally differ very materially. In the case of hæmatemesis there is generally a history of stomach trouble, the blood is brought up by vomiting, is usually more or less clotted, generally brown in colour and mixed with food, and has an acid character. In the case of the coughing of blood from the lungs, on the other hand, there is usually a history of lung or heart trouble, the blood is coughed up, is unmingled with food, and is usually bright red in colour.

Treatment.—Absolute rest in bed is essential in all cases of hæmatemesis. Nothing but liquid food should be given, and even that should be avoided for at least 24 hours after the hæmorrhage. After a few days of white of egg and water, milk may be given together with a certain proportion of clear soups or broth. As soon as all pain and tendency to vomiting has ceased, providing at least a fortnight has passed since any hæmorrhage has occurred, a liquid diet may be supplemented by a small quantity of farinaceous pudding, custard, a lightly boiled egg, and a little fish. Medical aid is, of course, necessary.

Hæmoptysis

Hæmoptysis or spitting of blood is met with in connexion with various heart affections, and with various diseases of the lungs. In certain rare cases, also, hæmoptysis may occur in place of menstruation. As is well known, spitting of blood occurs most frequently in connexion with consumption. As a rule hæmorrhage from the lungs occurs without warning.

Symptoms.—The patient in coughing experiences a saltish

taste, and on examining the expectoration finds that it consists of blood. It is rare that hæmoptysis is in itself immediately dangerous. When, however, blood is brought up in mouthfuls, it is probable that an aneurism has burst, and the danger is great.

Treatment.—The treatment consists in immediately going to bed, and remaining there in perfect rest. Ice may be given to suck. Medicines may be taken to check the cough. The diet should be very light and a smart purge should be taken at the onset. Medical aid is, of course, necessary.

Hæmorrhage, or Bleeding

From a Wound.—The blood from an artery is distinguished from that of a vein by being brighter in colour and by flowing in a saltatory or jumping way.

If from a vein make a compress by folding up a piece of lint or a small handkerchief, and apply it to the wound with a bandage over it. This treatment also generally answers in bleeding from small arteries, although the pressure requires to be greater. If this is insufficient, and the sufferer is losing a great deal of blood, pending the arrival of medical aid a rough and ready tourniquet should be applied also, by winding a handkerchief or silk scarf around the limb, on the side of the wound nearest the heart if an artery has been cut, or below it if a vein, and twisting tightly by means of a stick slipped beneath one of the turns. A hard pad over the artery or vein, under the handkerchief, will greatly assist the local pressure.

From Varicose Veins.—Place the patient on his back, lift the leg up in the air and then put a pad on the bleeding spot and bandage firmly.

From the Nose.—Bleeding from the nose almost invariably comes from the same spot, viz. on the septum half an inch or so from the nostril. It is due to the rupture of a tiny blood-vessel. The tendency to hæmorrhage is often induced by some previous injury to the nose by a blow or fall, or by the bad habit of picking the nose. The bleeding point is generally just at the spot where the finger nail will reach.

Causes.—Apart from the obvious cause of injury, the bleeding is most frequently found in persons suffering from high blood pressure, whether due to the thickened arteries of old age, granular kidney or other constitutional condition.

Treatment.—The bleeding can always be stopped by plug-

ging the affected nostril tightly with gauze, either soaked or not soaked in adrenalin solution. The plug should remain in position for 12 hours or so and then be gently removed after soaking with hot water. The bleeding can always be stopped permanently by cauterizing the actual bleeding point, either with silver nitrate or the actual cautery. In people with high blood pressure it is often wiser not to cauterize the point as it acts as a safety-valve to the arterial system and by a loss of blood relieves the tension.

After Tooth Extraction.—Sponge the gums dry and see exactly whence the bleeding comes, then plug the tooth socket with wool moistened with perchloride of iron solution, or with a solution of adrenalin, 1 in 1,000.

After Confinement.—Keep the patient at absolute rest on her back, and remove the pillows so as to keep her head low; cover only very lightly with bed-clothes. Place the hands on the lower part of the abdomen, and press deeply down with a kind of kneading motion. If the womb is felt contracting into a hard lump under the hands, grasp it and keep it tight till the arrival of the doctor. Give the patient a little tepid milk and water to drink.

From the Umbilical Cord.—When bleeding takes place from the umbilical cord, the child generally becomes restless, and the blood may saturate its clothing. Undress the child immediately, and tie a ligature of three or four thicknesses of worsted or linen thread behind the original ligature.

Internal Bleeding.—Instances of this form of bleeding are seen in hæmorrhage from the lungs and stomach. That from the lungs (hæmoptysis) is generally bright scarlet in colour and frothy in appearance, owing to the admixture of air; that from the stomach (Hæmatemesis) is dark in colour and is not frothy.

Treatment.—Keep the apartment cool, and the patient quiet and in the recumbent posture. Ice may be sucked, or a little cold water taken when ice cannot be had. A doctor should be summoned immediately. A hypodermic injection of morphia is often very useful in insuring absolute rest.

True Internal Bleeding is when bleeding occurs inside the body and the blood remains in the tissues or in one of the body cavities.

Symptoms.—Pallor, thirst, restlessness, faintness, and long deep sighing breathing.

Treatment.—Raise the foot of the bed, give hot-water bottles, and send immediately for medical advice.

Hæmorrhoids, or Piles

These are swellings situated sometimes within and sometimes outside the lower bowel opening. They are liable to irritation and inflammation, in consequence of which they give rise to a good deal of suffering. *External piles* consist in a collection of rounded hard tumours and of prominent ridges of skin situated on the outer edge of the opening. When these become irritated and inflamed they occasion acute pain, with throbbing, a sense of heat, and a constant desire to relieve the bowels. This affection originates in the distension of the local veins, caused by the circulation being obstructed. The presence within the opening of large, rounded, and soft tumours, covered by red mucous membrane (*internal piles*) is attended with more serious symptoms. These are very apt to weaken by giving rise to frequent bleedings.

Treatment.—Piles are varicose veins of the last part of the bowel. If there is anything which promotes congestion of the veins in this region the condition will be made worse. The commonest cause is constipation. As piles are due to congestion of the veins, saline aperients, which promote a watery action and thus relieve local venous congestion, are extremely useful. A teaspoonful of Epsom salts or fruit salts or Glauber's salts should be taken in hot water every morning half an hour before breakfast. Bathe the parts well in cold water, if necessary sit in a basin of cold water, and keep the parts scrupulously clean. It is often advisable to use cotton-wool instead of paper for toilet purposes, and the parts should be washed after every action. If itching is troublesome resorcin ointment may be used with good results. The cardinal things are to keep the bowels acting freely and to keep the parts scrupulously clean. Active exercise relieves congestion of the venous system and is therefore good. That piles are due to sitting on cold stones is a superstition which dies hard.

Hair, Falling

(See Baldness.)

Hair, Superfluous

(See Superfluous Hairs.)

Hair, to Brush

Do not use a brush to remove tangles. It is a common practice that splits the hair. Remove tangles with a comb of smooth, even teeth, used gently and regularly, first at the ends of the hair, and then little by little to the roots, after which brush it steadily from the roots down to the very ends.

Hair, Treatment of

Once or twice a month wash the head with soft water, in which a little soap has been dissolved. If liked, rub the yolk of an egg, slightly beaten, into the roots of the hair, let it remain a few minutes, and wash it off thoroughly with pure water, rinsing the head well. Wipe and rub the hair dry with a towel, and comb the hair from the head, parting it with the fingers. If the hair has been very dry *before* the washing, a little bay-rum should be used. Shampoo powders and liquids may also be used in place of the egg yolk. Only reliable brands, however, should be used, as the lesser-known kinds frequently contain soda, which dries the hair and makes it brittle.

Hairwash.—Put 1 oz. each of powdered camphor and borax into a pint bottle and fill it up with hot water. Stand aside for 24 hours. Apply daily to the roots of the hair with a sponge. Besides being pleasant to use, it is an excellent tonic for the hair.

Harvest Bug

The little scarlet parasite known as the harvest bug, so common in gardens and fields, is a source of great irritation to some individuals. It commonly attacks the leg, though no part of the body is exempt. It is especially apt to attack the bends of the joints, and any part of the body pressed by the clothing. Carbolic acid lotion of a strength 1 in 40, and carbolic acid ointment, are the most useful applications both for the destruction of the parasite and the relief of its bites.

Hay Fever

This is due to irritation of the lining membrane of the nose and throat by the air-borne pollen from the flowering grasses. Spraying the throat with a lotion containing carbolic acid, 8 drops; sulphate of quinine, 2 grains; tannic acid, 4 grains; sulphurous acid, 3 drachms; and water to 1 oz. will be found

of use, but the only certain cure is to live by the sea, or in town during the hay season.

In severe cases medical advice should be sought with regard to preventive inoculation with pollen vaccine during the winter and spring.

Head, Bandages for

(See Bandaging.)

Headache

Take 5 grains of aspirin every hour for 2 or 3 hours, or 10 grains of salicylate of sodium every hour, for 2 or 3 hours, or 7 grains of phenacetin every half-hour for an hour and a half. $\frac{1}{2}$ a drachm of potassium bromide at night will often relieve headache and sleeplessness. More "natural" cures are to lie down in a dark room and fast, or to sip a glass of cold water slowly. An aperient is often all that is needed.

If headaches are frequent or accompanied by vomiting or blurring of vision a doctor should be consulted without delay. It is not wise to have recourse too early to drugs for headaches. For Sick Headache, *see* Migraine.

Health

(See pp. 17-32.)

Heart Disease

This is a complaint which, like cancer, is too serious and difficult to permit of self-treatment. If there is any suspicion of its existence, if there is shortness of breath, pain over the heart or running down the left arm, any labouring or irregularity in the heart's action, medical advice should be sought and carried out.

Heart, Palpitation

(See Palpitation of the Heart.)

Heartburn

Bismuth and soda powders as in dyspepsia may be given, also bismuth tablets.

Hemlock Poisoning

(See Poisons.)

Hemlock Poultice

(See Poultices.)

Hemiplegia

When, as a consequence of some injury to the brain or some brain disorder, the muscles on one side of the body become paralysed, we have the condition known as "Hemiplegia." Usually the arm is more completely paralysed than the leg; the muscles of the chest and abdomen generally escape. When the muscles of the face, arm and leg are paralysed, hemiplegia is said to be complete; when only one or more of these parts is involved, the hemiplegia is said to be partial.

Henbane Poisoning

(See Poisons.)

Hernia

By this term is meant any protrusion of the contents of a cavity through its walls. But in general the term is applied to the protrusion of the abdominal viscera, constituting rupture. The predisposing cause of hernia is a weakness in the walls of the abdomen. The exciting cause is compression of the contents of the abdomen by the surrounding muscles, which are very powerful, and are brought into violent action by rowing, lifting weights, pulling, etc. Pregnant women should be extremely careful to avoid all exercise likely to throw a strain upon the abdomen. Even the lifting of a coal-scuttle, or reaching up to hang up clothes on washing day has resulted in single or double rupture. Hernia is divided into the following varieties—reducible, irreducible and strangulated.

Irreducible Hernia.—By the term irreducible is meant that form of rupture where, from some impediment in the canal through which it passes, it cannot be replaced in the abdominal cavity. If an irreducible hernia be neglected, it produces many inconveniences, abdominal pains, vomiting and general intestinal disturbance, and the contents of the bowel may be obstructed in their natural passage, causing colic and constipation, while the chance of the bowel becoming strangulated at that point is greatly enhanced.

The treatment of irreducible hernia must be either palliative or radical; the palliative measures being the application of a

bag truss and the avoidance of all violent exertion or excess in diet. The radical proceedings are, of course, only to be attempted by an experienced surgeon.

Reducible Hernia.—By reducible hernia is meant one returnable into the abdominal cavity. Its symptoms are the existence of a compressible tumour in the groin, which lessens in size if the patient lies down, or disappears altogether, receives an impulse on coughing or on any exertion being made and can be readily returned by pressure.

This form of hernia can be treated either palliatively or radically: the first by means of trusses and the second by operation.

Strangulated Hernia.—By the term strangulated hernia is meant that a portion of intestine being protruded, there is a total stoppage of its contents, so that they cannot be propelled towards their natural outlet and, moreover, that the bowel itself is so constricted that it is strangulated.

The symptoms of this condition are—firstly, those of obstruction of the bowels; secondly, those of inflammation. The individual has flatulence, tightness over the belly, a desire to evacuate the bowels and an inability to do so. Next, vomiting supervenes, in the first place of the contents of the stomach, of bilious matter, and then of matter smelling strongly of fæces, in consequence of the ingesta being detained in the intestinal circuit.

When a patient is found to be suffering from this variety, immediate operative interference is necessary. Until such aid is at hand, some assistance is to be derived from what is termed taxis, from which, even in unprofessional hands, if properly directed, good results may ensue. The patient should be placed in a warm bath and both the thighs beraised towards the belly and placed close to each other, as a means of relaxing all the muscles and ligaments connected with the abdomen: he should be engaged if possible in conversation, so as to relax the respiratory muscles. Next, the visible tumour should be grasped gently with one hand to empty it as far as possible, and with the other the neck of the tumour should be kneaded with a movement towards the abdomen. This operation should be continued for some time, a quarter of an hour or so, if no great pain is produced by so doing, at the end of which time, if the proceeding is successful, a slight gurgling sound will intimate the return of at least a portion of the tissue.

In some instances raising the pelvis and lowering the shoulders have proved effectual. Chloroform is a great aid in the reduction of such a hernia, but, of course, must only be used by a doctor. A hot bath (96°-100° Fahr.), a large dose of opium, an enema of tobacco, a drachm to a pint of boiling water, cold, in the form of ice, or of a freezing mixture placed in an ice-bag, and applied over the swelling may all be tried. In the event of these milder remedies failing, a surgeon must perform an operation to relieve the constriction.

Umbilical hernia is most frequent in newly-born children, and presents itself as a protrusion at the navel. A flat disc of metal, or a two-shilling piece, well covered with lint, or linen, retained against the protrusion with a strap of plaster will retain the hernia. Excessive crying of an infant may produce a form of hernia, and this condition should therefore be watched for in the case of all such babies.

Ventral hernia is a protrusion of bowel through the abdominal walls in the mesial line, or through any parts of the parietes which are not usually the seat of otherwise named hernia. There are several other forms of hernia which protrude themselves through those natural openings in the pelvic or abdominal walls which serve to transmit muscles, vessels and nerves to the limbs. In these and other instances of hernia it is essential that medical advice should be obtained without delay.

Hiccough

The cause of hiccough is a sudden violent contraction of the midriff, or diaphragm, usually brought about by irritation of the muscle, either directly or reflexly as a consequence of indigestion. The attack may be over in a few minutes or it may last for days, or even weeks, with short intervals. In some people any sudden shock or emotion would bring on an attack of hiccough, and among those who take alcohol to excess its occurrence is very common. Where it persistently occurs hiccough is a very distressing symptom, though as a rule it is quite without danger. When, however, it occurs in a person who is seriously ill, it is generally a bad sign. Among the simple remedies may be named holding the breath after a deep expiration, or drinking a glass of water with the nostrils closed, or pulling on the tongue. Of internal remedies the most effective is nitro-glycerine, given in tablet form, one-hundredth of a grain being taken as a dose; this may be

repeated after a short interval. As a rule, however, it is unwise to take this drug except under medical orders.

Housemaid's Knee

A swelling over the knee-cap, brought on by bruising or friction. The swelling may be painless, with water in it, or inflamed, and develop into an abscess. The latter is the easier to cure, as the opening of the abscess will cure the condition. The former may require a surgical operation to get rid of it. Painting with iodine is useful.

Hysteria

Hysteria is a disease of the mind and is occasioned by a conflict between two opposing ideas or "complexes" in the mind. There is no limit to the symptoms which these conflicts will produce, but whatever they may be, paralysis, loss of memory, dumbness, or insensibility to pain, they are produced as a solution, or attempted solution, of the conflicting ideas. The paralysis of the soldier, for example, is his solution of the conflict between his desire to run away from shell fire and his desire to show himself a brave man in face of the enemy and avoid the imputation of cowardice. His paralysis prevents him running away and showing himself a coward, and it also prevents him from the risk of an active attack of the enemy. The girl who loses her memory, forgets her name, does not know where she lives and so on, loses it because her identity or her home is associated with some experience which is so painful that the only way she can make life tolerable is by burying in her mind all association with it.

These conflicts naturally engender a great deal of tension in the mind, and attacks of hysterics, alternate laughing and crying, convulsions, etc., associated in the popular mind with the idea of hysteria, are simply evidence of this tension breaking down and finding relief in these emotional storms. These "fits" are never dangerous and can usually be controlled by an exhibition of firmness on the part of the physician or nurse.

Treatment.—The treatment of Hysteria consists in the discovery by analysis of the mind of the complexes which are upsetting the equilibrium of the mind. By bringing them to consciousness, for the patient is unaware of the deeper causes of his malady, so that they can be faced and understood by him, it will generally be found that they disappear entirely.

A great many hysterical symptoms are based on early infantile or childish experiences (associated always, according to Freud, with the sex instinct) which have been rigorously suppressed, so that their elucidation is often a matter of some difficulty. General tonic treatment is quite useless unless the mental component of the trouble is overcome.

Indigestion

Indigestion is a term used to signify rather a faulty condition than a specific disease.

Causes.—Frequently indigestion is due to unhygienic habits of life, to faulty dieting, and especially to inadequate physical exercise. But the state of mind also plays a frequent and important part, both in its causation and persistence. Worry, anxiety and lack of interests rarely fail to produce it.

Symptoms.—Indigestion may manifest itself in many ways, but, nearly always, a prominent symptom is a feeling of weakness and ineffectiveness, lack of energy and of will power. Other common symptoms are sickness, abdominal pain, pain between the shoulders, aches in the muscles of the limbs, loss of appetite, headache and faintness. There may be a condition of diarrhoea, but constipation is much more frequent. Frequently the tongue is coated and sometimes dry, especially on waking in the morning. Where pain or vomiting are prominent symptoms medical advice should be sought.

Treatment.—Immediate steps should be taken to relieve the actual symptoms. In nearly all cases a good start may be made by promoting activity of the eliminatory functions. One or two compound aloin tablets or cascara tablets may be taken each night for a few weeks, followed, if necessary, by a Seidlitz powder, or a small dose of Epsom salts each morning. But meanwhile steps should be taken to render the continuance of these artificial adjuvants unnecessary. The diet should be simple yet attractive. Personal tastes must be studied. Usual regularity of meals is desirable; sweet and "fancy" articles of food should be avoided, vegetables and fruit, both raw and cooked, should form a considerable part of the dietary. A moderate amount of fish, tender meat, poultry and eggs can be eaten, and where it agrees, half a pint of milk may be drunk twice daily, not, however, as an accompaniment to meals. Water should be liberally drunk between meals, but alcohol is generally better avoided. Exercise is desirable. (See also Flatulence.)

Influenza

This disease has occurred in various countries at different times, and has received a vast number of names; in the seventeenth century it appeared in Italy and first received the name of "influenza," because it was attributed to the influence of the stars. The area attacked has also much varied in extent; sometimes only part of a country has been affected; at other times it has spread over a great part of the civilized world. One of the earliest recorded epidemics in England appears to have taken place in 1510; since that time this country has been invaded by it so frequently that it may be described as a real scourge. A disease is said to be "endemic" when it is always present in a certain district or country; "epidemic" when it spreads over a country; "pandemic" when it invades a large portion of the earth's surface. Influenza occurs in both an epidemic and pandemic form. It is a disease which attacks the mucous membrane of the nose, throat and respiratory tract. The microbe causing it is known as Pfeiffer's bacillus. It has an incubation period of about 48 hours, is sudden in its onset and lasts a variable period, its duration depending on the severity of the epidemic, the patient's resisting power and the presence or absence of complications. The disease is conveyed from one person to another by the spray of a cough or a sneeze. Tiny invisible droplets of mucus containing microbes float in the air and are inhaled into the nose and throat of the victim. Once installed there they rapidly multiply and in about 48 hours the patient develops the disease.

Symptoms.—The patient has chilliness, shivering, a feeling of malaise and headache, followed later by aches and pains in the limbs, fever, quick pulse and a feeling of prostration. There are three main types of the disease, (a) the respiratory, (b) gastro-intestinal, (c) nervous.

(a) The respiratory is the most common. After the preliminary symptoms just described, the patient begins to feel hot, and there may be sore throat. The temperature rises to 101° Fahr. or more, the pulse quickens and breathing becomes more hurried. The nose begins to run, the eyes become injected and cough becomes noticeable. A hard dry cough, without expectoration, is very common in some epidemics. If the microbe reaches the bronchi, the cough is followed by expectoration of mixed mucus and pus and a condition of bronchial

catarrh is set up. If the microbe penetrates still further into the alveoli of the lungs an influenzal bronchitis results, followed in the course of a day or two by a much more profuse expectoration and wheezing noises during inspiration and expiration.

If the infection remains confined to the nose and throat after an interval of 3, 5 or 10 days the temperature comes down to normal, the tongue cleans, the appetite returns and the patient feels better.

The infection of influenza is often a mixed one, i.e. there are other microbes at work besides Pfeiffer's bacillus, and the bronchitis and pneumonia that follow the initial influenza are partly due to these other microbes which the influenza, by weakening the system, has given an opportunity to develop. In the epidemic of the winter of 1918-1919, following the conclusion of the Great War, a very fatal form of septic pneumonia developed and was responsible for a large number of deaths. The patient's temperature rose to 105° or 106° F., the pulse became rapid and the breathing quick, a troublesome cough developed with rust-coloured expectoration; notwithstanding all that could be done the temperature remained high, delirium frequently was present, the face became bluish and the patient died in the course of a few days from heart failure.

(b) The gastro-intestinal type has a rapid onset with nausea and vomiting and abdominal pain in addition to the early symptoms mentioned in the respiratory type. The tongue becomes coated with a white fur, the temperature rises and after a day or so diarrhoea with loose stools sets in. The duration of this type of the disease is usually shorter than, and is not so serious as, the respiratory type.

(c) The nervous type has an onset similar to the others, headache, fever, pains in back and limbs and eyeballs. After a very short time the patient becomes drowsy, sleeping most of the time. He dislikes being disturbed or bothered by questions and gradually becomes comatose. After two or three days the stupor disappears and the patient is convalescent. In certain cases, however, the stupor deepens, symptoms of meningitis appear and the case ends fatally. A nervous type in which delirium is the most marked feature is sometimes seen.

Many troublesome symptoms follow an attack of influenza of which one of the commonest is an irregular heart action.

This as a rule disappears under treatment in the course of a few weeks, but it may be much more persistent and in some cases it sets up an irregularity which lasts for the rest of the patient's life. Ear discharge, arising from disease of the middle ear, occasionally follows cases in which the throat symptoms have been marked. Nephritis, or inflammation of the kidney, is sometimes left behind by an attack of influenza and may be transitory or permanent.

Treatment.—The first essentials are rest and warmth. This means bed in all cases. There is no doubt that cases are very much prolonged if the sufferer attempts to "brave it out" or "work it off." At the onset give a purge and administer a dose of quinine either in the form of a 2-grain tablet in water or in the form of the ammoniated tincture of which the dose is 1 drachm. If there is fever and aching limbs, salicylate of soda in 10-grain doses every 4 hours will reduce the fever and ease the aching. Keep the diet light and give plenty of fluid to drink, such as barley-water, home-made lemonade, water, and soda-water. The pulmonary and other complications should be treated by a medical man.

The most important point in the prevention of complications is adequate rest in bed. An attempt to hurry convalescence often ends disastrously.

Inoculation.—At the onset of an epidemic, medical advice should be obtained with regard to inoculation against influenza. Inoculation greatly modifies the attack and lessens the danger of fatal complications even if it does not actually prevent it.

Ingrowing Toe-Nail

Generally the result of small boots. Cotton-wool dusted with iodoform, and pressed between the nail and the soft parts will relieve the pain, but the best method is to cut or scrape with a small file or a penknife a groove which practically divides the nail down the centre and removes the pressure.

Inoculation

(See p. 37.)

Insect Bites

Rub camphorated oil on the bitten parts. A weak solution of carbolic acid and oil—1 part to 10 of oil—is also effective. For *gnat and mosquito bites*, paint at once with a paste of

violet powder, moistened with equal parts of chloroform and eau-de-Cologne.

Insomnia

Persons actively engaged in literary pursuits, whose occupations absorb a large amount of nervous energy, are subject to conditions of insomnia. There is no symptom, when viewed in relation to the health of the brain and mind, that requires more careful and unremitting attention than that of insomnia, or wakefulness. It is one of the most constant concomitants of some types of incipient brain disease and, in many cases, a certain forerunner of insanity. Insomnia should not be neglected or trifled with. If dealt with when the conditions first set in, a great deal of suffering and anxiety may be averted. Should the symptoms increase in severity the doctor should be consulted at once.

Treatment.—In average health, the best cure for sleeplessness is duly regulated exercise of body and mind. Among the simpler and hygienic means of promoting sleep is cold water, or cold water and vinegar, sponged over the forehead and temples when the restlessness appears to be due to congestion and heat about the head.

Mental activity and consequently sleeplessness, mean an excess of blood in the brain. A very efficacious method of procuring sleep after lying awake for some time is to take a small quantity of food, e.g. a glass of milk and a biscuit. (See also Sleep, pp. 31 and 32.)

Internal Hæmorrhage

(See Hæmorrhage.)

Intoxication

Symptoms.—Drunken fits occur suddenly, often some time after the alcohol has been taken. The symptoms somewhat resemble those of an apoplectic fit, but the pulse is usually quick and the breath smells strongly of alcohol.

Treatment.—Unless complete loss of consciousness has occurred from this cause, give an emetic of mustard and water (1 tablespoonful in tepid water), or 20 grains of sulphate of zinc or powdered ipecacuanha. The emetic should be followed by 2 or 3 draughts of warm water. Remove to a warm atmosphere, and give strong tea or coffee after the emetic has

taken effect. This treatment is suitable only *before* loss of consciousness has occurred. If a drunkard has become absolutely unconscious, stomach washing is essential, and must be done speedily. Send for a doctor at once.

Irish Moss Poultices

(See Poultices.)

Isolation

(See p. 35, also Quarantine.)

Itch

This is due to direct infection by a small parasite called *Acarus*. The irritation is most intense at night. Examination will show small elevated pimples, generally with the heads scratched off, all over the body, but especially in the angles between the fingers. The face is not attacked.

Treatment.—The old sulphur ointment treatment sometimes causes a dermatitis on sensitive skins. The patient should have a bath in the morning and the whole body well rubbed with Benzyl Benzoate ointment, which should be left on for the rest of the day, and the performance repeated next day. Patients with scabies should be isolated.

Jaundice

Though often spoken of as a disease, is not a disease by itself, but only a symptom common to many disorders of the liver. (See also Liver Complaints.)

Laburnum Poisoning

(See Poisons.)

Lacerated Wounds

(See Wounds.)

Laryngitis

Laryngitis is usually due to an infection of the larynx by some microbe. It may occur alone or as a part of a general infection of the nose and throat. When it occurs alone there is, as a rule, very little constitutional disturbance, but if associated with tonsillitis or pharyngitis there is the fever and headache usually associated with these complaints. It may also

be caused by the inhalation of irritating vapours such as sulphur fumes.

Symptoms.—The symptoms due to the laryngitis are huskiness, often going on to complete loss of voice, with some pain on swallowing or attempting to speak, and frequently a troublesome more irritable cough with little or no expectoration.

Treatment.—The treatment is silence, inhalations of steam with Friar's Balsam (1 teaspoonful to the pint of boiling water), hot compresses round the neck and an expectorant mixture of 5-minim doses of ipecacuanha wine and 5-grain doses of potassium chlorate. Some cases find more relief from the sucking of ice and spraying with a fine atomiser containing Friar's Balsam dissolved in alcohol.

All conversation on the part of the patient should be carried on in whispers or by writing.

Chronic Laryngitis may occur as a sequel of acute laryngitis, as a result of overstraining of the voice either in speaking or singing, from over-smoking, or as a result of chronic infections of the throat such as tonsillitis or pharyngitis. A persistent laryngitis is often due to tuberculosis and as tubercular disease in this situation is so often fatal steps should be taken early to have the larynx inspected and a diagnosis made in cases which do not quickly clear up.

The commonest cause of chronic laryngitis is the wrong use of the voice in speaking or singing. Cases due to this cause should be taught to use the voice correctly. The treatment of chronic laryngitis is similar to that for acute laryngitis—the voice must be rested and inhalations and sprays used.

In elderly people laryngitis is sometimes due to malignant disease of the vocal cords and this fact should be borne in mind in all attacks in people over 50.

Lead Poisoning

Chronic lead poisoning is a common disease among painters, plumbers and other workers in lead. Men who work in white-lead factories are especially liable to be attacked. The lead may get into the system through the skin, the lungs or the stomach.

Symptoms.—The principal symptoms are an increasing anæmia; a blue-black line along the margin of the gums, repeated attacks of severe colic, paralysis of certain muscles, especially of the arms, and various mental symptoms some-

times attended with convulsions. Any or all of these symptoms may be present. According to the severity of the symptoms the outlook varies, in mild cases recovery after suitable treatment is usual. When convulsions or mental symptoms occur, the prospects are much more serious.

Treatment.—The treatment should of course be principally preventive ; scrupulous cleanliness of the hands, and indeed of the entire body, being observed by all those who have to work with lead. The finger nails should receive attention, and the teeth should be cleaned twice daily. Frequent warm baths should be employed. Any tendency to constipation should be corrected.

Lice and Vermin

Body Lice are easily got rid of ; they must be searched for in the folds of the underclothing, especially where it presses, as on the shoulders and hips. Here will also be found the *nits* or eggs, which are small white oval specks, attached to the loose fibres of the garment.

The treatment is very simple and effective, and is embraced in the word *cleanliness*. Complete changing of underclothing, bed-linen, etc., together with warm baths, is required. The use of D.D.T. is common to disinfect the head and clothing.

Another species of vermin which infest the hairy parts of the body and cause intense itching are known as "crabs." Any of the mercurial ointments—blue unction, white precipitate, etc., will destroy the vermin. These ointments must be used with care.

Head Lice.—Lousiness of the head or scalp sometimes results in a very considerable eruption of raw, exuding surfaces, covered with crusts, which may mat the hair together. Frequently it is impossible to find a single louse upon the head, so carefully have they been removed by careful combing and washing. But the *nits*, or eggs, are as surely indicative of the state as though the insects were themselves found ; for they can and certainly will hatch out, and the scalp, free to-day, will have many there to-morrow.

Soak the hair with ordinary kerosene oil for 24 hours, fresh oil being added 3 times during that period : the head in the meantime is to be bound up, to keep in the volatile gases which thereby penetrate the *nits*. At the end of 24 hours the scalp should be thoroughly washed with soap and water, and most of the eruption will have disappeared.

Liniments

(See Embrocations.)

Linseed Poultices

(See Poultices.)

Liver Complaints

The liver, like the kidneys and other organs, is liable to various acute and chronic diseases. Amongst the *acute* changes may be classed catarrh, or inflammation of the bile ducts, acute atrophy of the liver, congestion and inflammation of the liver, and the presence of gall-stones in the hepatic duct. Whilst amongst chronic changes may be enumerated cancer, cirrhosis, fatty and waxy degeneration and Hydatid Cysts.

(1) *Catarrh of the Liver.*—*Symptoms.*—Jaundice, loss of appetite, coated tongue, slight sickness and a feeling of retching; the motions are pale, the urine dark, the skin and eyes become yellow, and there may be, in some cases, a troublesome itching of the skin. The pain is not in itself a very troublesome symptom; it is generally felt, if at all, in the right shoulder-blade and along the lower edge of the liver, and is often worse on pressure.

Treatment.—The best treatment is first to open the bowels freely; a dose of calomel at night followed by a saline draught in the morning will generally suffice. The diet must be very light, and capable of being easily digested; all rich food should be avoided, while milk, broth, beef-tea, toast and biscuits, or a light pudding, may be taken. No stimulants should be given. Effervescing solutions may be given with benefit, since they allay thirst and sickness; those which contain soda salts are the best, and those also which have an aperient action. The bowels must be kept open daily. Active exercise should be taken every day, if the patient can bear it; and for some time after recovery care must be taken to avoid indigestible food.

(2) *Cirrhosis of the Liver.*—This disease comes on more generally in middle life; at first it may be mistaken for cancer, as there is loss of flesh and appetite and pain in the abdomen, but the symptoms come on more gradually. The liver does not increase in size, but rather shrinks; dropsy of the abdomen comes on, and the distended abdomen becomes marbled over with blue veins as the stream of blood through them is impeded.

(3) *Fatty Degeneration of the Liver.*—This is common in many disorders. A liver may be very fatty, and yet give rise to no symptoms, as in cases of consumption. The symptoms come on very gradually, so that the organ is generally much diseased before any notice is taken of the mischief. The disease is often very chronic, and will last for years unless there be much mischief in other organs; dropsy is a bad symptom, and, when general, will frequently point to disease in the kidneys.

Treatment.—The chief attention must be given to the diet, and all indigestible foods avoided. If dropsy be present purgatives must be given to remove the fluid, and the general health must be kept up by tonic medicines, such as iron and quinine.

(4) *Gall-stone.*—A gall-stone in the hepatic duct will cause great pain over the liver (chiefly in one spot), much sickness and intense distress, and a feeling of faintness. A hot bath and the administration of chloroform will ease the pain, or hot fomentations constantly renewed may be applied to the affected side. If the acute pain continues a doctor should be called at once and a hypodermic injection of morphia administered if he thinks it advisable. Jaundice will come on from the obstruction to the flow of the bile, but this will disappear when the stone has escaped from the duct into the intestine, or has become dislodged and returned to the gall-bladder, thus leaving the bile duct open.

(5) *Hydatid Cysts.*—These occur more commonly in the liver than in any other organ, although they are by no means often met with. They may occur in the liver either as small, round and firm tumours, formed of a fibrous capsule, with putty-like contents; these are hydatid cysts which have undergone spontaneous cure, and can do no more harm; or as cysts with a tough, fibrous capsule, enclosing a quantity of fluid, and a greater or less number of smaller cysts floating about in them. These cysts may attain a great size; they are seldom attended with pain, unless there is inflammation outside setting up adhesions. The general health is seldom affected, so that the nature of the disease is chiefly recognized by the presence of a tumour in the liver and the absence of any constitutional symptoms. Should the contents of the cyst suppurate, the condition becomes one of *abscess of the liver*, and constitutional symptoms such as pain and shivering fits occur.

Treatment.—The treatment will consist in having resort to surgical aid, whereby the contents may be evacuated, and the cyst allowed to shrink. If allowed to grow, such cysts may cause death by bursting into the abdominal cavity, or into some neighbouring organ.

(6) *Passive Congestion of the Liver.*—This often occurs in heart disease and some disorders of the lungs, arising from the fact that since the course of the circulation is disturbed at these points the veins become too full all over the body, and the hepatic vein sharing in this fullness the liver gets stuffed with blood, and so the stream flows through too sluggishly. From a similar cause the veins in the leg and kidney are over-filled, resulting in dropsy of the lower extremities and a scanty flow of urine, which will contain a variable amount of albumen. Pain over the liver will be present, and, frequently, there is some yellowness of skin from the presence of jaundice. After a time dropsy of the abdominal cavity may come on, with fatal results.

Treatment.—Since passive congestion of the liver results from the disease of the heart or lungs, the treatment must be directed to allaying any tumultuous or irregular action of the heart, and to removing any dropsy by purgatives or small punctures in the leg.

(7) *Sluggish or Congested Liver.*—This is generally associated with catarrh of the bile ducts, and arises often from want of exercise and excess in eating and drinking.

(8) *Abscess of the Liver.*—This is found in tropical countries chiefly, and is due to the bacillus of dysentery finding its way to the liver in patients suffering from that disease. If this condition is present the only treatment is surgical evacuation of the contents of the abscess. The symptoms are pain over the liver, swelling of abdominal wall in that region, shiverings and fever: the patient loses appetite, strength and flesh and his skin becomes jaundiced.

(9) *Waxy Degeneration of the Liver.*—This is a less frequent disease. It rarely, if ever, occurs alone, and is generally associated with similar disease in the kidneys, spleen and intestines. It occurs in persons who have long suffered from diseased joints and chronic abscesses and in scrofulous subjects. Practically the only special symptom is obvious enlargement of the liver; and its treatment is included in that of the chronic disease with which it is associated.

Lock-jaw

Lock-jaw, or tetanus, is an infectious disease produced by a particular bacillus or germ, which occurs for the most part in the earth. It is commoner in some countries and in some districts than in others. The germ is usually introduced into the system in connexion with some wound. It is advisable to inject tetanus anti-toxin in all wounds which have been contaminated with soil and manure, especially if these wounds are deep, punctured wounds.

The value of the anti-toxin is unquestioned if it is given within a few days of the wound. After the symptoms have once developed anti-toxin is comparatively of little use.

Symptoms.—The symptoms usually appear within 10 days of the injury: there is first some stiffness in the neck, with a little tightness of the jaws and difficulty in biting. After a little while the muscles of these parts become spasmodically contracted; at the same time the eyebrows may be raised and the corners of the mouth drawn out. Gradually the other muscles of the body become affected, repeated spasmodic contractions associated with agonizing pain occurring; death usually takes place within a few days. The treatment is entirely surgical, and should be adopted without any delay. There is a good deal of difference of opinion as to the effect of the injection of tetanus anti-toxin in these cases.

Locomotor Ataxy

Locomotor ataxy is essentially a disease of the spinal cord, and it usually runs an extremely tedious course, extending over many years and practically always ending fatally. Symptoms vary much in different cases; one of the earliest symptoms is usually a feeling of constriction round the body, with sharp pains running down the limbs, dull pains in the back. Loss of touch is also a common early disturbance. Often also the muscular sense is more or less impaired so that the patient is unable to tell the position of his limbs without seeing them. There is gradually increasing inability to co-ordinate muscular action, so that the gait becomes unsteady and walking in the dark or with closed eyes becomes practically impossible. All movements acquire a curious deliberate jerky character. As time goes the patient becomes altogether unable to walk, and eventually becomes bed-ridden and paralysed. No treatment seems of the slightest use.

Lotions

Lotions are usually applied on lint or rag which has been previously soaked in the lotion required. If it is desired to produce a cooling effect by the evaporation of the lotion, only one layer of very thin material should be used.

Arnica Lotion.—Tincture of arnica, in the proportion of a teaspoonful to 2 oz. of water, is useful in the case of sprains and contusions.

Evaporating Lotion, No. 1.—A simple evaporating lotion is 1 part of alcohol to 8 of water. Bay-rum or eau-de-Cologne may be substituted for the alcohol. The following is a very good formula : muriate of ammonia, 12 grains ; alcohol, 36 minims ; water, 1 oz.

Evaporating Lotion, No. 2.—Equal parts of vinegar and eau-de-Cologne or lavender water, diluted with an equal quantity of water and used as above.

Vinegar Lotion.—1 part of vinegar to 3 of water is a commonly used lotion for sponging invalids. Equal parts of vinegar and water may be usefully employed for bruises.

Lumbago

This is a form of chronic rheumatism affecting the lower part of the back and loins. The individual moves stiffly, and has pain in getting up from the sitting posture or in turning over in bed.

Treatment.—The application of a menthol plaster, or strapping the affected side, often gives relief. Should it be impossible to apply either of these remedies, a hot bath and wrapping the part up in flannel will be found useful. Salicylate of soda in 10-grain doses every 4 hours often affords much relief. Search for some focus of infection such as a discharging tooth or ear or a tonsillar abscess as most cases of rheumatism are due to poisoning of the body from some such source. Rubbing with a compound camphor liniment containing a little laudanum, often relieves. In gouty persons the diet should receive attention.

Lymphadenitis

In connexion with tubercular disease it is common for the lymphatic glands in various parts of the body to become affected. In rare cases nearly all the lymph glands of the body become involved and often enormously enlarged. More

commonly, however, certain parts of the body only are affected, those most frequently attacked being the glands of the neck.

There is a great tendency for the glands so affected to pass on to suppuration, and often considerable disfigurement results. All these cases should be surgically treated at as early a stage as possible, both in order to avoid local disfigurement and to destroy the general infection.

M & B

(See Sulphonamides, p. 207.)

Massage

or kneading or manipulation of the flesh, has been performed with some amount of success in such ailments as paralysis, headache, chronic constipation, dyspepsia, sprains, neurotic affections, St. Vitus's dance, anæmia, writer's cramp and rheumatism, as an adjunct to medical treatment. It presupposes a knowledge of anatomy and physiology on the part of the operator, and should not be carried out without the express *sanction of the doctor*, who ought also to recommend the operator. In some cases it involves stroking of the flesh upwards towards the trunk in the direction of the muscle fibres; in others the flesh is picked up and kneaded or rolled between the fingers; in a third set of cases friction is performed with the finger tips; in a fourth percussion with the back of the hand. An ignorant operator may often do serious harm, either directly by bursting a blood-vessel, rupturing an aneurism or perforating the stomach, or indirectly by employing it in cases (as heart diseases) for which it is wholly unsuited. When friction is needed to excite circulation of the blood, brisk rubbing up and down with the bare hand or hair glove all over the surface of the body, will answer. The best time for this is before dressing, in the morning, after the patient's bath. Where there is stiffness, or inaction of the muscles, from any cause, the entire body should be treated by pinching and rubbing the muscles and tendons, done with the whole hand and not the fingers alone; each joint also should be worked up and down and backwards and forwards, evenly and without jerks, starting at the toe, and going upwards—a sort of kneading of the entire body. Where there is a restless nervousness or fatigue to be overcome, the rubbing should be in one direction, in long, slow, firm strokes, beginning with

the shoulders and arms, then the back, abdomen, thighs, legs and feet, with an equable, monotonous movement, which soothes and induces sleep.

Measles.

This is an infectious febrile disorder. It is always more or less prevalent; but at times it spreads with great rapidity, and sometimes causes death. As a rule, children and young people are attacked, but the general exemption of adults is probably due only to the fact that most of them have had the disease in childhood. Second attacks, however, are not unknown.

Symptoms.—Before the appearance of the rash there are some precursory symptoms. The patient feels languid and hot, there is shivering, followed by a rise of temperature, a quick pulse, thirst, loss of appetite, and sickness. The eyes become red and watery, and give the patient the appearance of having cried; the membrane which lines the nose, throat, larynx and trachea is red and swollen, and pours forth a watery secretion; thus the affected person appears to have a severe cold, with running from the eyes and nose. There is generally much sneezing with a slightly sore throat and a dry, harsh cough. Convulsions occasionally occur in children. After these symptoms have lasted 3 or 4 days the rash appears. It begins in very small papules or minute red pimples, which rapidly multiply, and these run together into patches which have a tendency to a horseshoe, or crescent, shape, while the portions of skin between are of a natural colour. Commencing on the face and neck, the blotches spread to the arms, then the trunk of the body, and gradually reach the lower extremities. When the eruption has disappeared the part of the skin affected is covered with a dry scurf.

Complications are liable to occur. Convulsions at the commencement are usually without danger; if they come on at the end of the disease they may lead to a fatal issue. Inflammation of the lungs and bronchitis, which may prove fatal to young children, may ensue if the patient is allowed to take a chill. The eruptions turning of a dark purple colour is a symptom of danger.

Treatment.—The child must be kept in bed. The room should be airy and well ventilated, but the patient must not be exposed to draughts. All discharges should be removed at

once, and dirty linen taken away and disinfected. A fire should be kept burning and the temperature of the room maintained about 60° or 65° Fahr. The blinds should be kept down on account of the patient's eyes, and the bed should be turned so that he lies with his back to the light. In all cases it is advisable to give the patient a hot bath at the very onset of the disease; then dry the surface of the body, and put to bed directly. All sources of annoyance and irritation and all noises should be avoided. The food should be of the simplest nature: milk, milk and water, chicken-broth, beef-tea, and toast and water. When the fever subsides a small piece of chicken or fried sole may be eaten, with toast or bread and butter; a fresh egg may also be given. As the tongue cleans and the appetite returns the patient may be allowed to resume his ordinary diet. Although children generally recover rapidly, yet there are times when much debility ensues, and the general health becomes impaired, although the fever has quite left. Children who are in bad health are liable to lumps or glandular swellings of the neck and under the jaws, or they may remain weak for a long time. In these cases chemical food may be used with advantage: Parrish's Syrup is another name for this. It may be given in doses of 5 to 10 drops 3 times a day in a little water, to children 2 or 3 years old. The syrup of the Hypophosphites is a very useful preparation in such cases, and may be given in doses of 5 drops largely diluted with water, 3 times a day, immediately after food. A visit to the seaside is very beneficial.

Measles, German

German measles is an epidemic fever with a rash bearing resemblance to that of scarlet fever and that of measles. It is, however, distinct from each, though it is not always easy to diagnose it in the earlier stages. It principally attacks children, though its occurrence among adults is by no means infrequent. As a rule the symptoms are much milder than those of either of the two diseases which it somewhat resembles. It commences with a sensation of chilliness, headache, nasal catarrh, and general malaise. There is a slight rise of temperature. The rash appears either on the first or second day, first on the face, then on the chest, and in the course of 24 hours spreads over all the body. The eruption consists of a number of pink spots, slightly raised above the general surface. It generally

remains for 2 or 3 days, after which it gradually fades, and may be followed by a little peeling of the skin. In this disease the glands are much more affected than in ordinary measles and the appearance of enlarged glands early in the disease is often quite characteristic. The treatment of German measles is very simple, and merely consists in keeping the child in bed for a few days, and giving a diet composed largely of milk.

Medicine, Administering

Although medicine is given by medical advice, and at the times the doctor orders it, as a rule, it sometimes happens that a bottle sent has only indefinite directions, such as "A dessertspoonful twice daily," or "A wineglassful every 4 hours"; and when the nurse is an amateur the best times to administer may not be known. Medicine which has to be taken at intervals during the day should be given first at 10 o'clock in the morning; if only once during the day, then at 9 in the morning or at bedtime; if twice, at 10 and 4.

It is always safest to have a medicine-glass marked with the different measures, for the size of the spoons may vary considerably in different households; and it cannot be too firmly impressed upon the nurse, whether professional or amateur, that regularity and exactitude in the administration of medicine are absolutely essential, the only deviation from the time fixed for it being made when the patient happens to be asleep at the specified hour.

In administering castor-oil it is best to wet the glass thoroughly first with water or lemon-juice, since this prevents the oil sticking to the sides of the glass and the patient's lips. A little brandy is often poured on the surface of the oil.

Meningitis (Simple)

By this is meant inflammation of the membranes covering the brain. It is always serious. Until M & B came the mortality rate was 90%; now it is 9%. M & B can only be given under doctor's orders. Sometimes Penicillin is used.

Causes.—It may be produced by the presence of the micro-organism *Diplococcus pneumoniae*. Often follows a neglected discharge from the ear.

Symptoms.—Neck rigidity is an important sign in an acute illness. In young children there is disturbed sleep, a

cast or rolling of the eyes, dilated pupils, convulsions and fever. With older persons who can express their symptoms there is severe headache, intolerance of light, want of sleep, mental disquietude, sometimes unnaturally acute hearing, constipation; sometimes sudden loss of speech and delirium.

Treatment.—Put the patient in a darkened room; apply cold to the head by means of cloths wrung out of cold water; send at once for the doctor; purgatives are generally required to combat the constipation; the greatest quiet must be maintained. Milk is the best food.

Meningitis (Tubercular)

This disease is associated with a scrofulous constitution, and is nearly always fatal. It occurs in children of different ages up to 12 or 13 years, and may occur in adults. It is due to an infection of the membranes of the brain by the tubercle bacillus and may occur in children who up to the onset of the disease have been quite healthy.

Symptoms.—Loss of appetite, loss of spirits (seen in aversion to play); constipation; gradual wasting of the body; drowsiness; squinting; vomiting; enlarged and glassy look of pupils; rolling of the head.

Treatment.—Keep the child quiet in a dark room, and give milk as food. But medical assistance should be procured as speedily as possible.

Menstruation

The period of puberty in the girl is marked by the appearance of a discharge of blood at the external organs of generation. This discharge comes from the interior of the womb, and recurs in health with great regularity every 28 days, or once a month, for a period of 30 years. The amount of blood lost at each monthly period varies, but usually it averages from 3 to 4 oz. If the quantity becomes excessive, as it sometimes does, the health of the woman suffers. The flow is not, as a rule, established at once; sometimes several months elapse between the first and second menstrual period; but when a few months are over, it recurs with great regularity, sometimes coming on even to the hour. The time of life when menstruation begins varies, but may be said to occur in temperate climates between the fourteenth and sixteenth year. Climate exerts an influence in this matter, but there are other circumstances

at work which tend to hasten the occurrence of puberty in the girl. Thus anything which tends to produce effeminacy—a lazy, listless life; undue mental excitement, caused by the reading of sensational novels, by conversation or the like; late hours, irregular habits of sleep; highly seasoned articles of diet and stimulants, have all a tendency to accelerate the occurrence of menstruation. The monthly periods when once established continue to recur at regular intervals in a woman who is healthy for about 30 years, during which time she is capable of conceiving. Menstruation ceases during pregnancy and generally during the period of suckling as well. Diseases which exhaust the strength and impair the vital energies of the body generally lead to a stoppage of the monthly discharge. This is frequently seen in the case of consumption and other diseases of a debilitating nature.

The appearance of menstruation is ushered in by certain well-marked symptoms, the significance of which should not be overlooked. About this time languor and general unfitness for exertion are complained of; there are dull, aching pains in the region of the pelvis; a feeling of dragging and weight about the small of the back is also complained of. There is a dark ring under the eyes. These pass away as the menstrual function becomes established. The change which menstruation works upon the girl is great. Her frame becomes rounder and fuller, the hips broaden, fat becomes deposited in various parts of the body, and the breasts enlarge.

About the first appearance of this discharge, the constitution undergoes a very considerable change, generally, indeed, for the better. The greatest care is then necessary, as the future health and happiness of the woman depend, in a great measure, upon her conduct at that period. She should be careful to take exercise daily in the open, to partake of a wholesome, nutritious diet and not to indulge in tight clothes. The exercise should be free and active, which will be found to promote digestion, to enliven the spirits and to ensure a proper discharge.

The final cessation of the menstrual discharge, like that of its beginning, is a critical period with all women. It seldom ceases all at once, but for some time before its stoppage becomes somewhat irregular, both as to the periods and the quantity. The grand object of treatment at this period should be to avoid irritation or painful mental emotion. The

diet should be nutritious, but plain, the exercise moderate, and costiveness should be carefully prevented by attention to diet and by lenient warm aperients.

Sometimes menstruation recurs every month, with little or no irregularity in this respect, but it is accompanied with great local pain, which is occasionally very severe, especially about the loins, hips and region of the womb. One of the most efficacious plans of treatment is to administer an aperient pill every other night, so that the bowels may be kept regular, without being purged. At the same time, the patient ought to take much exercise daily in the open air, either on horseback or on foot; to be attentive to the rules of diet, and to mingle with cheerful society. A warm bath at 96° Fahr. every other morning will likewise be advisable and change of air and scene will much conduce to recovery.

Chlorosis is a complaint of young girls in which the monthly discharge is either absent altogether, or occurs irregularly and in small quantity; and suppression of the menses, which signifies an interruption to the discharge, may occur at any time of life after it has become habitual. It may, therefore, be remarked in women of any age up to 45 or 50. Of course the chief symptom is the disappearance of the usual monthly discharge, with which various strange and unusual feelings are associated, differing in different individuals: such as a feverish heat and dryness of the skin, flushing of the face, headache, pains in the loins and back, costiveness, difficulty of breathing, palpitation of the heart and sometimes bleeding from the nose, stomach, or lungs. The most frequent causes of this suppression are great anxiety of mind; suddenly suppressed perspiration from cold, especially if occurring while the discharge was flowing; sudden alarm or terror; protracted fever; scanty and poor living. The principal methods of treatment are, to excite the action of the vessels of the womb and increase the tone of the system in general when weak or enfeebled, or to allay irritation in it when the complaint occurs in a woman of plethoric habit. When the suppression is associated with chlorosis the treatment should be directed to that disorder.

Mercury, Corrosive Sublimate, Poisoning
(See Poisons.)

Migraine

Migraine or sick headache is a paroxysmal disease to which certain persons are peculiarly liable. It attacks men as well as women, though the latter much more frequently. Though it appears to be primarily a nervous affection the attacks seem often to be brought about by digestive disturbance or by mental fatigue. The patient can usually tell when an attack is coming on. Various disturbances of vision are frequent at this stage, mental confusion and depression of spirits are also common premonitory symptoms. The headache usually commences at one spot, frequently on the temple or in the eyeball. It gradually spreads till the whole head is involved. A sensation of nausea with or without vomiting is frequent. There is great general prostration. The attack may last for a few hours, though severe cases frequently extend over 3 or 4 days. Perfect rest in bed, combined with quietness and darkness, is the first necessity. A smart purge may be taken, and all food should be abstained from, though water or soda-water may be freely drunk. In the way of preventive treatment attention should be paid to the general health. Regular active outdoor exercise should be taken, and the bowels should be kept well regulated. The diet should be light and nourishing, consisting largely of milk, eggs, fruit, vegetables and fish. Tea, alcohol, cake and pastry should be entirely avoided. At the commencement of the attack 5-grain tablets of citrate of caffeine or phenacetin are often helpful.

Monkshood Poisoning

(See Poisons, Aconite.)

Monthly Nurse

(See p. 242.)

Morphia Poisoning

(See Poisons, Laudanum.)

Mosquito Bites

(See Insect Bites.)

Movable Kidney

In the normal way the kidneys are firmly fixed in position, but occasionally one is to a greater or less extent movable. As

a general rule, even when this latter condition occurs, it gives rise to no symptom, in which case it should be left alone. In other cases there is more or less discomfort in the loin, and often marked hysteria occurs. The only satisfactory treatment is surgical, the kidney being stitched and fixed. Relief is sometimes given by suitable bandages, but little permanent effect is produced.

Mumps

This is a very infectious febrile disease, accompanied by swelling of the parotid salivary gland in front of and beneath the ears. The patient complains of slight malaise for a day or two, and then the swelling appears, at first on one side, generally commencing beneath the ear, and coming forwards on to the cheek, followed in a day or so by a similar swelling on the other side of the face. Sometimes both the swellings appear simultaneously; sometimes only one side is affected. The swelling is usually painful, especially during the process of mastication.

Treatment.—If there is much pain, hot fomentations with poppy-heads should be applied, but if not it will be sufficient simply to keep the head tied up in flannel. Very occasionally an abscess may form on one side or other. This will require surgical treatment. Usually no medicine will be required, except a simple aperient at the commencement of the attack, and during convalescence the following prescription: tincture of steel, 1 drachm; glycerine, 4 drachms; water to 6 oz.; give 1 tablespoonful 3 times a day for a child of 10. While there is fever the patient should be kept in bed; and cold must be avoided throughout the course of the disease.

Mushroom Poisoning

(See Poisons.)

Mustard-and-Linseed Poultices

(See Poultices.)

Mustard Poultice

(See Poultices.)

Nasal Catarrh

(See Catarrh and Cold.)

Nettle-Rash, or "Urticaria"

This disorder, which is commonly known as nettle-rash or hives, is an acute affection often appearing in the course of a few minutes. Raised patches, called wheals, of various shapes appear abruptly on different parts of the body, no part being exempt from their invasion. Their arrangement is irregular. Their colour is usually whitish, or pale at the top and red at the base, which is surrounded by a ring of reddened skin, which shades off into the natural colour. To the touch they are sometimes firm. They are often evanescent, fading as quickly as they came and are often seen to disappear and reappear in other parts during the same attack. No alteration of the skin is seen after the wheals have disappeared. Urticaria is invariably attended with most annoying stinging and burning of the affected skin. The irritation is often almost intolerable. Scratching and rubbing aggravate the symptoms. The duration of the acute form is from a few hours to a day or two and is greatly influenced by the removal of the exciting cause. Certain persons are much more prone to this affection than others and external irritants or internal derangements that produce in some persons a slight local inflammation of the skin or a simple erythema, will in others give rise to nettle-rash. Among the external irritants which not infrequently cause it may be mentioned fleas, bed-bugs, mosquitoes and other insects, the jelly-fish, so common in certain seasons in the sea, and the stinging-nettle, which last gives to the eruption its name.

Causes.—By far the greater number of cases arise from internal causes; these are chiefly referable to disturbances of the digestive organs. Indigestion from over-eating highly seasoned dishes and excess in drink often cause an outbreak. Certain articles of food, many of which are in season in summer and are looked upon as delicacies, are especially apt to produce this affection. Such are sea-food—crabs, lobsters, clams, oysters, fish; some of the small fruits, as strawberries and raspberries; pork and sausages and some other articles. These things are eaten with impunity by the vast majority of persons; it is therefore evident that they produce nettle-rash in the minority by reason of some personal peculiarity. A sudden checking of the perspiration has been, in a few cases that have come under observation, the only assignable cause. Intense emotion has been also assigned as a cause.

Treatment.—It is obvious that successful treatment will depend upon a prompt recognition of the cause. As a rule this will be readily discovered. Inquiries into the nature of food recently taken should be instituted. It may be necessary to administer an emetic, especially if the attack is severe, or the suffering great. A free movement of the bowels should be brought about as soon as possible and laxatives employed from time to time, during the attack, if protracted. Bathing with a lotion of carbolic acid and water, of a strength of 1 in 60, will sometimes give a little temporary relief.

Diet.—Urticaria, or nettle-rash, is one of the most difficult diseases in which to regulate the diet, for while most articles can be taken with impunity, some particular one, perhaps the least suspected, may be the cause of the trouble. The articles most commonly injurious are shell-fish, also stale fish, mushrooms, bananas, strawberries, raspberries and pineapples; but in obstinate cases other articles may be the cause. Because in certain persons shell-fish may cause this eruption, it is a mistake to think that shell-fish are to be avoided in all skin diseases. On the contrary, they are very constantly ordered to be taken by doctors, who consider them beneficial in most diseases of the skin as a substitute for meat.

Nettle-rash is due to a deficiency of calcium salts in the blood and many cases clear up on the administration of calcium lactate tablets, 5 grains 3 times a day between meals.

Neuralgia

Give quinine and iron—2 grains of the former and 10 drops of the latter (as steel-drops) 3 times a day in water. Menthol may be applied externally, also ether spray. *Decayed teeth* should be removed, and ear discharge or defective sight attended to. If the attack comes on daily at the same hour, a dose of the quinine taken $\frac{1}{2}$ an hour before the period may ward it off. Hot fomentations, or camphorated oil containing some laudanum, may relieve the pain during an attack. (*See also* p. 212.)

Neurasthenia

Neurasthenia is a nervous disorder without any known alteration in the organic structure of the body, characterized by a continual state of extreme weakness and nervous prostration after the slightest exertion. There is usually consider-

able mental depression and inability or indisposition to perform any mental work. The weakness and fatigue are out of all proportion to any apparent cause. The symptoms indeed very closely resemble those experienced during the early days of convalescence from an acute fever. In a large proportion of the cases there exists a curious headache, which is not so much painful as distressing, the sensation being one of pressure or fullness, so that the patients often complain that they cannot get rid of the feeling of a heavy weight on their head. The weakening of the nerve and muscular energy is of every degree of intensity. In its slighter forms it may consist merely of a sensation of tiredness after ordinary exertion, but may be insufficient to prevent the patient from attending to his ordinary business. In other cases the pain is so extreme that the patient feels unable even to raise himself on the elbow. Feeble digestion is the rule, sleeplessness also is extremely common. Neurasthenia is not a dangerous disease, and providing a suitable treatment be strictly enforced the majority of cases move steadily towards recovery. In the severe cases complete rest in bed for a few weeks, and isolation from sympathetic friends, is essential. A very full nourishing diet, consisting largely of milk, should be compulsorily administered during this time. Afterwards steady and increasing outdoor exercise should be taken amid surroundings of interest, free from all worry and anxiety. Massage and cold spongings are valuable parts of the treatment throughout. The great hindrance to the successful treatment of neurasthenia usually consists in the patient's friends. They generally either believe the disease to be imaginary and so increase the sufferings and distress of the patient, or, on the other hand, they display a foolish sympathy which is no less harmful. Nothing, as Weir Mitchell has pointed out, is more curious, nothing more sad and pitiful, than these partnerships between the sick and selfish and the sound and over-loving. The patient has pain, a tender spine, for example; she is urged to give it rest. She cannot read; the self-constituted nurse reads to her. At last light hurts her eyes; the mother or sister remains shut up with her all day in a darkened room. A draught of air is supposed to do her harm, and the doors and windows are closed. To cure such a case you must morally alter as well as physically amend, and nothing less will answer. The first step needful is to

break up the companionship, and to substitute the firm kindness of a well-trained hired nurse.

Neuritis

Neuritis, or inflammation of the nerve fibres, may affect a single nerve or may involve a large number of nerves, in which case it is spoken of as multiple neuritis. This last condition is especially associated with chronic alcoholism, though it is not entirely traceable to that cause. It generally attacks persons in middle life. The onset of the disease is commonly acute. The body temperature rises to 103° F. or even more. Tingling and numbness are experienced in the hands, and feet, followed by severe burning pains in the limbs. Generally there is extreme tenderness in the muscles. Considerable muscular weakness follows, the first muscles to lose their power being those in the front of the leg and the back of the forearm. Dropping of the foot and of the wrist is the result. Generally the disease progresses for a month or so, then remains stationary for a couple of months, then, under suitable treatment, slowly improves. Should the muscles concerned in respiration become affected death frequently results, otherwise recovery is the rule. In the early stages complete rest in bed is essential, and hot fomentations may be applied to the painful limb. Alcohol should be completely barred from the first. After the acute inflammation has subsided massage is of the greatest importance in restoring the functions of the affected nerves and muscles.

In the case of localized neuritis, that is neuritis which affects a single nerve, the cause is generally either cold, or a wound, or the extension of inflammation from adjacent parts. In this form there are usually no constitutional symptoms, the principal symptom being a stabbing pain along the course of the nerve affected. The muscles to which the nerve fibres are distributed are also involved, and there may be more or less twitching and paralysis.

Nightmare

Give 20 grains of bromide of potassium in water at bedtime.

Night Terrors

The attacks known as Night Terrors are most common in children between the ages of 3 and 8 years, but there are cases

in which the attack has been noticed at as early an age as 11 months. In its general symptoms the seizure resembles a very severe nightmare: the child wakes screaming, and is either found sitting up in bed, crouched in a corner of the bedroom, or he will rush out of the bedroom and fly to the nearest person. His face is set and terror-stricken, and his eyes staring, and he often cries that he sees frightful apparitions, which follow or threaten him. In bad cases the child cannot recognize even the most familiar faces, and clings blindly to the first comer, but after an interval varying from a few minutes to half an hour he begins to recognize his surroundings, and to notice people that he knows. He shows all the signs of extreme exhaustion, and his face and body are wet with sweat. When he at last falls asleep again it is to start and mutter, and he will beg not to be left alone. Frequently a large quantity of urine is passed either during or just after the attack. A curious thing about the attacks is that they occur while the child is in perfect health, a fact which differentiates it from nightmare, which is generally associated with ill-health and digestive disturbance. In the case of Night Terrors there is generally a family history of hysteria, chorea, or epilepsy, though this is not invariable. It is as well before attributing the attack to brain disturbance, to try the effect of a dose of calomel, as constipation seems frequently to be the cause of slight attacks. Care should be taken that the child is not left to sleep in the dark or alone, for a light burning brightly in the room and a familiar face meeting the child's eye at once on waking will do much towards breaking the spell and allaying its fears. Harshness in such cases is quite clearly out of place and few pieces of cruelty can be greater than forcing a little timid child, in whom threatenings of these attacks have occurred, to go to bed in the dark, or to lie there without a light.

Over-pressure at school and too much homework are frequent causes of Night Terrors.

Nipples (Sore)

These should be hardened beforehand with a little glycerine and eau-de-Cologne. When sore, wear a nipple shield with a breast-tube teat. An excellent application is glycerine and borax. The nipples should be carefully washed and dried each time they are used, and the application put on afterwards.

Nitric Acid Poisoning

(See Poisons.)

Nose, Foreign Bodies in

(See Foreign Bodies.)

Nurse

(See p. 229.)

Nurse, Monthly

(See p. 242.)

Nurse, Wet

(See p. 244.)

Nursery

(See p. 246.)

Nursing

(See p. 239.)

Obesity

Obesity or corpulence is a condition which especially shows itself after the middle period of life. There is no doubt that a great many people of the well-to-do classes, after they reach middle age, take a steadily diminishing amount of active exercise. They do not, however, make a corresponding reduction in the amount of food consumed, and obesity certainly rarely occurs among those who lead very active lives and eat in strict moderation. Occasionally, however, cases do occur among those who are by no means indolent, and who appear to eat almost a minimum of fattening food. These, however, are exceptions. Various dietaries have been suggested for the reduction of fat, among the most celebrated being the Banting, the Ebstein, and the Salisbury diets. In the latter method it is usual to restrict the diet absolutely for a time to large quantities of rump steak, cod fish and hot water. Dr. Towers-Smith, a great advocate of this method, gave 3 lb. of rump steak and 1 lb. of cod fish, together with 6 pints of water, as the daily diet for the first fortnight. The next three weeks the hot water was reduced to 4 pints, and other kinds of lean meat and fish were allowed, as well as a little green vegetable

and unsweetened rusks. This method is, however, by no means generally applicable, nor is it by any means invariably successful.

The Banting method consists mainly in limiting the amount of food taken, strictly limiting the amount of fluid taken, and excluding fats, sugar and starch. The following is typical Banting dietary :—

Breakfast at 9 a.m. consisted of 5 to 6 oz. of animal food—meat or boiled fish (except pork or veal) ; a little biscuit, or 1 oz. of dry toast ; 6 to 7 oz. of solids in all. A large cup of tea or coffee (without milk or sugar)—9 oz. of liquid.

Dinner at 2 p.m. Fish or meat (avoiding salmon, eels, herrings, pork and veal), 5 to 6 oz. ; any kind of poultry or game ; any vegetables, except potato, parsnips, beetroot, turnips, or carrot. Dry toast, 1 oz. Cooked fruit, unsweetened. Good claret, sherry, or Madeira, 10 oz. Total of solids, 10 to 12 oz.

Tea, 6 p.m. Cooked fruit, 2 to 3 oz. ; a rusk or two ; 2 to 4 oz. of solids. 9 oz. of tea without milk or sugar.

Supper, 9 p.m. Meat or fish, as at dinner, 3 to 4 oz. Claret, or sherry and water, 7 oz.

The Ebstein dietary differs from the Banting principally in the fact that he allows fat to be eaten in moderation.

The present attitude of most physicians lies between these various courses, and agrees largely with that of Burney Yeo : “ Animal foods should be strictly limited, starchy foods should be reduced to a minimum, sugar should be entirely prohibited, a moderate amount of fats should be allowed. Only a small quantity of fluid should be permitted at meals, but enough should be allowed to aid in the solution and digestion of the food. Hot water may be taken freely between meals or at the end of the digestive process.” No beer, wines or spirits should be taken. An increasing amount of outdoor exercise should be taken, and saline purgatives freely employed.

It is only necessary to mention a few other details. Of animal foods, all kinds of lean meat may be taken, poultry, game, fish (eels, salmon, and mackerel are best avoided), eggs.

Meat should not be taken more than once a day, and not more than 6 oz. of cooked meat at a time. Two lightly boiled or poached eggs may be taken at one other meal, or a little grilled fish.

Bread should be toasted in thin slices and completely, not browned on the surface merely.

Hard captain's biscuits may also be taken.

Soups should be avoided, except a few tablespoonfuls of clear soup.

Milk should be avoided, unless skimmed and taken as the chief article of diet. All milk and farinaceous puddings and pastry of all kinds are forbidden. Fresh vegetables and fruit are permitted.

It is important to bear in mind that the actual quantity of food permitted must have a due relation to the physical development of the individual, and that what would be adequate in one case might be altogether inadequate in the case of another person of larger physique.

Oil of Vitriol Poisoning

(See Poisons—*Sulphuric Acid*.)

Ointments

(See Embrocations, Lotions and Liniments.)

Ophthalmia

The most common disease of the eye is inflammation of the conjunctiva. Its simplest form is the catarrhal, in which the mucous membrane of the eye is affected in the same way as that of the throat and nose and often at the same time. As the membrane is continuous with that of the nose and throat, its diseases may be so too, as in the case of influenza. It usually yields readily to rest and simple treatment, but if not checked may run into the purulent form, or become chronic and end in the condition known as granular lids. The latter is a very tedious and obstinate complaint and is well known and much dreaded by patients who frequent hospitals and dispensaries.

Purulent ophthalmia differs from catarrhal ophthalmia principally in degree and it is sometimes difficult to tell where the one ends and the other begins. The discharge, which is thick and yellowish and, in bad cases, very copious, is virulently infectious. Whole families are sometimes inoculated by the discharge from the eyes of an infant who has had the disease so slightly as scarcely to attract attention. It is not common among adults who live in clean and roomy houses, with comfortable surroundings, but is met with often enough in very young infants. It is most frequent where a number

of people are crowded together, as in barracks, asylums, charity schools, etc. This disease is sometimes called Egyptian ophthalmia, from its great frequency in Egypt, where it prevails to such an extent as to assume the proportions of a scourge. The infection is conveyed from one patient to another by flies. Many soldiers of the Crusades were victims of this disease, and numbers of blind beggars groped about the streets of London and Paris, appealing to the sympathies of the passers-by with the cry of "Holy Land!" "Holy Land!" to show that they had lost their sight in the popular cause. Three hundred of these persons were cared for in an asylum established in Paris in 1260 by Louis IX, which, from the number of its inmates, was called "Les Quinze Vingt." It is still in existence, and is the oldest institution for the blind in the world. Purulent ophthalmia is one of the most dangerous diseases to which the eye is subject and its victims are the most numerous in asylums for the blind. Fortunately, in a large proportion of cases it yields to proper treatment, particularly the form occurring in infants, which is nearly always curable in its earliest stages; but no time should be lost in calling in the doctor, as, in a bad case, a few hours sometimes decide the patient's fate. The most scrupulous cleanliness is always essential and the greatest care must be taken that no towel or basin that the patient uses shall be used by anyone else. When the disease appears in a building where a number of persons are congregated, every one attacked should be immediately isolated. The question is frequently asked, Whether it is better to bathe the eyes in cold or warm water? So far as external bathing is concerned, this is merely a question of comfort and may be decided by the experience of the individual; but it is not well to apply anything to the conjunctiva unless this is inflamed. Many people have an idea that it strengthens the eyes to open them under water; but though the eye may be able to bear this exposure to an unnatural element, it certainly cannot suffer from the want of it. Healthy eyes, if given anything like a fair chance, will take care of themselves and need no attention beyond what may be necessary to avoid abusing them.

When the eye is extensively lacerated by a wound, or when a foreign body is lodged in the ball, the effect is not always confined to the injured eye, but there is great danger of the other being lost by sympathetic inflammation. In nearly all

such cases the only safety from ultimate blindness is in the removal of the offending eye, which is no longer either useful or ornamental, but has become merely a dangerous deformity and sooner or later, sometimes after many years, is pretty sure to give trouble. Fortunately the operation for the removal of a disorganized eye is not a serious one and the resulting disfigurement can, to a great extent, be concealed by the use of an artificial eye. Such perfection has been reached in the manufacture of artificial eyes that close examination is often needed to distinguish them from the natural organ. They are thin shells, the edges of which fit into the folds of the conjunctiva, and are held in place by the lids. One should never be worn more than two or three years, as, when the enamel is eroded by the tears and mucus, it loses the perfect smoothness of its surface and becomes a source of irritation.

Opium Poisoning

(See Poisons.)

Oral Sepsis

(See p. 212.)

Otorrhœa

(See Ear Discharge.)

Oxalic Acid Poisoning

(See Poisons.)

Ozæna

This disease derives its name from the offensive discharge from the nose, consequent on the ulceration and destruction of the lining membrane, though it may arise from other causes. The condition should not be neglected, as it may spread to the bones, with serious results. The treatment consists in applying, by means of a syringe or a nasal douche, a weak solution of Condyl's Fluid, carbolic acid, boracic acid, alum, or glycerine with a little tincture of iodine. Subnitrate of bismuth and powdered gum in equal parts may be snuffed up. The system should be treated with cod-liver oil, iron, or arsenic, but in consequence of the difficulty of recognizing the possible complications and of reaching the seat of the mischief, it is very desirable to submit the case to the doctor's hands.

Palpitation of the Heart

This does not necessarily mean heart disease. It is more likely due to indigestion and flatulence. A glass of hot water with $\frac{1}{2}$ a teaspoonful of bicarbonate of soda, and a teaspoonful of sal volatile in it, may give relief. 5 or 6 drops of essence of peppermint on a lump of sugar are useful. External applications are hot fomentations and turpentine stupes.

Penicillin

Penicillin, the "wonder drug," obtained from a fungus, is now available to the public. There seems to be no end to the number of diseases it will cure, and yet there are limitations, and as it usually has to be given by injection it must only be used as prescribed by the doctor and the indiscriminate use of lozenges and ointments avoided.

Peritonitis

Inflammation of the membrane, called the peritoneum, which lines the abdominal cavity. It is usually caused by diseases or wounds of the abdomen or its contents.

Symptoms.—Severe pain is complained of, increased by pressure; the knees are generally drawn up and the patient lies on his back; the abdomen is puffed up; there is obstinate constipation, and sometimes continued vomiting.

Treatment.—A doctor must be called in at the onset of the disease, for often immediate surgical treatment is the only possible means of saving the patient's life. The administration of opium, unless specially advised by the doctor, is not to be undertaken, for it will effectually mask many of the important symptoms by which the cause of the disease can be discovered, and the remedies applicable administered.

Piles

(See Hæmorrhoids.)

"Pins and Needles"

This is a name applied to that peculiar pricking of the arm, foot, or leg, which is so commonly felt after pressure on the nerve-trunk, or a long-continued constrained attitude. It is generally removed by rubbing or exercise. If it should continue, it may be the precursor of some more serious attack and medical advice should be sought.

The cause of this condition has been thus explained: "By pressure for a certain length of time the sensibility of the nerve is greatly blunted. When this pressure is removed suddenly, the sensibility will gradually be revived; as each nerve-fibre, composing the trunk, returns to its normal condition of sensibility, a pricking sensation is felt and the successive prickings from the successive awakenings of the numerous fibres cause the pins and needles."

Pleurisy

This is an inflammation of the pleura or serous membrane which covers the lungs and lines the greater part of the cavity of the chest. It is generally brought on by exposure to cold and wet, but may be the result of an accident in which the ribs are broken.

Symptoms.—Stabbing or shooting pain in the affected side, increased by breathing deeply or coughing. The pain is usually confined to one spot, and, if the ear be placed against the side, a fine, rubbing sound will be heard, which goes by the name of "friction," and resembles that produced by rubbing a lock of hair between the finger and thumb. The pulse is quick, the tongue is coated; there is thirst and loss of appetite, and the temperature is raised. In a day or two the breathing becomes more difficult, owing to fluid being infused into the pleural cavity and pressing upon the lungs; this fluid after a time usually becomes absorbed, when the breathing grows easier. Sometimes a slight operation has to be performed for its removal.

Treatment.—Place the patient in bed without delay, in a room the temperature of which should not be below 60° Fahr. He should not be allowed to speak more than necessary. Linseed-meal poultices should be applied to the chest. A mustard-leaf poultice or a hot fomentation will often give relief at the onset. Strips of adhesive plaster placed obliquely in the direction of the ribs will often procure rest and relieve pain. Milk, beef-tea, broth and jelly should be given in the early stage; and later, when the fever has abated, light puddings, eggs, white fish, and other light and nourishing diet. During recovery, cold and damp must be carefully avoided.

Pneumonia

This is an inflammation of the lung substance proper, and

is usually caused by the presence of *Bacillus pneumoniae*. It is generally ushered in with a rigor (a sudden coldness attended with shivering), which is often very severe; in children convulsions may take the place of the rigor. The temperature rises, and may reach 104° or 105° Fahr. There is pain in the chest and loss of appetite; the face is flushed, breathing is rapid, and there is a short hacking cough; the matter expectorated is tenacious and rusty-coloured.

Treatment.—Keep the temperature of the room at about 65° Fahr., or rather higher. Support the shoulders well with pillows; this will assist breathing. Give milk, beef-tea, white of egg, custards, jelly, strong chicken-tea, etc. Cold water may be given to allay thirst. Medical aid should be sought at once. M & B drugs are now used in treating this.

Poisoned Wounds

(See Wounds and Blood Poisoning.)

Poisons

Many of these give rise to vomiting, and are thus got rid of. In such cases the vomiting should be encouraged by tickling the back of the throat with a finger or feather or by giving draughts of tepid water. If it is at hand, a stomach-syphon, which is much more convenient to use than the stomach-pump, should be employed to withdraw the poison. Care must be taken to pass the tube along the *back* of the throat, as otherwise harm may result. If the poison has not given rise to vomiting, a handful of salt in lukewarm water may be given and draughts of tepid water afterwards. Mustard and water is a good emetic when the poison taken is not irritant in character. 20 grains of powdered ipecacuanha in water, or the same quantity of sulphate of zinc in water, may be used in the same way.

General Directions.—The principles to be remembered are (1) Empty the stomach; (2) Neutralize what remains in the stomach by antidotes; (3) Apply warmth and restoratives and enforce rest; (4) Send at once for medical aid.

When an alkali (*see* below) is the poison, give drinks of weak vinegar or lemonade. When an acid, chalk and water, whiting plaster from the walls, or white of egg; if a narcotic, give strong coffee, and do everything to *keep the patient awake*, walking him about, opening the windows wide, applying cold water to his face, and so on.

PARTICULAR POISONS :—

Acetic Acid (see *Oxalic Acid*).

Aconite, Monkshood, or Blue Rocket.—Give 1 tablespoonful of mustard in water or 20 grains of sulphate of zinc in water ; then a dose of castor-oil. Hot bottles should be applied to the feet, and a teaspoonful of spirit of sal volatile in water, or a cup of strong coffee given.

Alkalies, such as potash, soda, ammonia, taken as pearl-ashes, soap-lees, common washing soda, and ammonia in vapour, solution and solid form.

Give drinks containing vinegar ; or lemonade, lemon-juice or olive-oil may be given, and stimulants in case of collapse.

Arsenic.—Empty the stomach with an emetic and the stomach-syphon, and then give freshly-prepared ferric oxyhydrate, prepared by adding a solution of common soda to a solution of ferric chloride. The patient must afterwards be fed for a considerable time on a milk and farinaceous diet only.

Barytes—Give 2 teaspoonfuls of Epsom or Glauber's salts every 2 hours until the bowels act.

Belladonna.—Give an emetic of 20 grains of sulphate of zinc in water, or 1 tablespoonful of mustard in warm water ; then drinks of tepid water, or stewed tea, the tannin in which renders the poison innocuous. Afterwards give a good drink of strong coffee.

Carbolic Acid.—Use the stomach-syphon if at hand. Empty the stomach with it, and then wash out that organ with a dilute solution of Epsom salts. White of egg and milk may be given. External warmth, and brandy by the rectum, are useful to combat the depression.

Chloral.—Give an emetic and an enema of 1 pint hot, strong coffee. Wrap in hot blankets, rub, and give a hot bottle.

Chloroform.—As an emetic give soda with water. Keep patient awake by every means.

Copper.—Use the stomach-syphon or give an emetic followed by draughts of hot water, barley and water, or arrowroot and water, to soothe the inflamed coats of the stomach.

Corrosive Sublimate, Mercury.—If the patient has not vomited give an emetic, followed by white of egg and demulcent drinks (lime-water, barley-water, etc.).

Foxglove.—Give an emetic of mustard and water or 20 grains of sulphate of zinc in water, then give a dose of castor-oil and a cup of strong tea.

Fung[†] (Toadstools, etc.).—Give an emetic of mustard and water, afterwards a dose of castor-oil.

Hemlock (see *Foxglove*).

Henbane, Thorn Apple, and Tobacco (see *Belladonna*).

Hydrochloric Acid (see *Sulphuric Acid*).

Laburnum.—Give an emetic of mustard and water or 20 grains of zinc sulphate in water, followed by draughts of warm water. If there is much collapse, strong coffee or other stimulants should be administered.

Laudanum, Opium, and Morphia.—Give 20 grains of sulphate of zinc or 1 tablespoonful of mustard in water, then drinks of tepid water. Wash the stomach out with a weak solution of Condyl's Fluid if a stomach-syphon is available. Afterwards give strong coffee, and keep the patient constantly in motion in the open air till drowsy feeling wears off.

Lead.—Give an emetic in the first place, then 2 teaspoonfuls of Epsom or Glauber's salts every 2 hours until the bowels act. When this has been accomplished continue the salts in smaller doses. Opium may be needed if the abdominal pain is severe.

Morphia (see *Laudanum*).

Mushrooms.—Give as an emetic 20 drops of tincture of belladonna in water. Keep patient warm.

Nitric Acid or Aquafortis (see *Sulphuric Acid*).

Opium (see *Laudanum*).

Oxalic Acid or Acid of Sugar.—Give magnesia or chalk mixed with water. When the acid is neutralized by these means give 1 tablespoonful of castor-oil.

Phosphorus.—Use the stomach-syphon to evacuate the contents of the stomach. If this is not available, give an emetic of 20 grains of zinc sulphate or 3 grains of copper sulphate dissolved in water. Purgatives should afterwards be given, but castor-oil must *not* be used since phosphorus is soluble in oil and the poison is then more easily absorbed into the system.

Potash Poisoning (see *Poisons—Alkalies*).

Prussic Acid.—Evacuate the stomach with the syphon or give emetics of mustard and water, or 20 grains of zinc sulphate in water. Then commence artificial respiration (see *Drowning*).

Ptomaine Poisoning.—Ptomaine poisoning may result from the eating of meat or fish in a state of decomposition. It

commonly occurs after the eating of sausages, pork pies, or tinned meat. The principal symptoms are violent colicky pains, vomiting and diarrhoea, headache, great muscular prostration, and often a rise of temperature. These symptoms are usually followed by collapse. Emetics should be at once taken, followed by purgatives. 1 or 2 tablespoonfuls of brandy may be necessary in the case of threatening collapse.

Salts of Lemon (see Oxalic Acid).

Shell Fish.—Give an emetic, then a purgative, afterwards 20 or 30 drops of spirit of sulphuric ether on a lump of sugar.

Strychnine.—Wash out stomach with dilute solution of Condyl's Fluid (or Potassium Permanganate). Then give potassium bromide 1 drachm in 1 oz. of water every $\frac{1}{2}$ -hour at first. The administration of chloroform may become necessary.

Sulphuric Acid or Oil of Vitriol.—Give chalk, magnesia or soda, mixed with water. Failing these, white of egg or soap and water may be used to neutralize the acid. Treat the collapse with hot bottles and blankets and an enema containing 1 oz. of brandy and an egg beaten up.

Tartaric Acid (see Oxalic Acid).

Turpentine.—As an emetic give 1 tablespoonful Epsom salts, white of eggs, milk.

Unknown Poison.— $\frac{1}{2}$ a pint of sweet-oil taken immediately is an effectual antidote to almost any poison. Any person with a very strong constitution should take a larger quantity.

Poultices

A poultice, unlike a mustard-plaster, should be made larger than is absolutely necessary. It is intended to allay pain and inflammation and, as the pain probably extends beyond the inflamed part, a large poultice should be made to cover the surrounding surface. Spread it on a stout piece of cotton. Let it be from half an inch to an inch thick. Do not pat it down into a hard pudding. Make the edges as thick as the middle, or else they dry rapidly and are painful. Cover the surface of the poultice with a very thin gauze or muslin, or bit of mosquito-bar, or lace, so that it shall not stick to the surface and can all be removed at one time. In applying to the chest, do not cover the nipples if it can be avoided. Have the cloth on which it is spread large enough to double up all round the four sides, over the edges of the poultice, that it may

not ooze out. Have everything ready, and the patient's clothing unfastened, before you bring the poultice to the bed. Apply it immediately as warm as it can be borne. Cover it with oil-silk or rubber-sheeting and then a flannel. Keep it firmly fastened to the place it is intended to cover, and renew it before it is cold. Its purpose is defeated if it becomes a stiff cold paste, or if it is allowed to slip about in an unsteady way. Linseed is better than anything else for an ordinary poultice. When oil is needed to spread over the surface of the poultice, use vaseline : it does not become rancid. Never use milk in making poultices, it quickly becomes sour and is of no value in itself. A good and very simple poultice can be had from a piece of soft, thick sheet lint, doubled, squeezed out in hot water, laid over the part and covered with a larger piece of rubber-sheeting, which is useful for such purposes and is very thin.

Bran Poultice.—Place the quantity of bran required, according to the size of the poultice, upon the top of boiling water, and when the heat has penetrated the bran, stir it gently in. Pour off the superfluous water, spread the bran thickly on a piece of clean old linen or calico, and apply the poultice as hot as it can be borne. A layer of fine muslin should intervene between it and the skin. The poultice must not be in a sloppy state.

Bread Poultice.—Boil about $\frac{1}{2}$ pint of water in a small, clean, lined saucepan. Into this put 2 oz. of stale bread without crust, and let it soak for a few minutes. Pour off, and lightly press out the superfluous water, spread the pulp thickly between two pieces of muslin or clean old linen, and apply hot, with one or two thicknesses of clean old rag outside to keep the heat in.

Bread Poultice (another Recipe).—Cut a slice of crumb of bread—the size required—out of a stale loaf, put it in a warmed basin, and pour boiling water over it ; leave it for a few minutes, covered with a plate, to soak. Then drain off all the water, spread the poultice on a piece of soft linen rag, and apply it as hot as it can be borne. It is much neater and generally as efficacious to wrap the poultice up in fine muslin, so that the bread does not adhere to the skin, and the whole may be removed without any mess. Cotton-wool must be placed outside in either case, to keep the heat in.

Bread-and-Water Poultice (Abernethy's Plan).—First scald

out a basin ; then, having put in some boiling water, throw in coarsely-crumbled bread, and cover it with a plate. When the bread has soaked up as much water as it will, drain off the remaining water, and a light pulp will be left. Spread this a third of an inch thick on folded linen, and apply it when of the temperature of a warm bath. To preserve it moist, occasionally drop warm water on it.

Charcoal Poultice.—For a charcoal poultice take 2 oz. of bread-crumbs and soak for 10 minutes in 10 oz. of boiling water, then mix and add gradually $\frac{1}{2}$ oz. of powdered wood charcoal and $1\frac{1}{2}$ oz. of linseed meal. The whole should be well stirred together and then spread and applied in the ordinary manner.

Charcoal Poultice, No. 2.—Another method adopted in making this poultice is to take $\frac{1}{2}$ oz. of wood charcoal, 2 oz. of linseed meal and boiling water sufficient to make a poultice.

Chlorinated Soda Poultice.—A chlorinated soda poultice is made like a linseed-meal poultice, but consists of 2 parts of linseed meal to 1 of chlorinated soda mixed with boiling water.

Hemlock Poultice.—Take 2 oz. of hemlock leaves in powder, 6 oz. of linseed meal and a pint of boiling water. Mix the linseed meal with the powdered hemlock and add gradually to the water, keeping up constant stirring while doing so. This poultice was more frequently used formerly than now, and was applied because of its sedative and soothing qualities to alleviate the pain of cancerous and other malignant sores. The best poultice is that which is made of fresh hemlock leaves bruised ; the dried and powdered leaves are apt to be inert.

Irish Moss Poultice.—In Paris, carrageen, or Irish moss, has been used as a substitute for linseed meal and other kinds of poultices with good results. It does not ferment, and remains moist and inodorous for sixteen or eighteen hours, when properly prepared by chopping and soaking.

Linseed-Meal Poultice.—A linseed poultice being always needed hot, care should be taken that it is made so. Put the meal into the oven to heat for a quarter of an hour, and scald out with boiling water the basin in which it is to be mixed. Have also in readiness 2 plates in the oven, and a piece of tow, pulled to shape, or a portion of old linen, upon which to spread the poultice. Into the basin put as much linseed as will be required, and pour on boiling water, stirring vigorously with

a knife, until the mass is of the consistency of thick porridge. Then turn the contents of the basin out upon the tow or linen, spread the linseed to an even thickness, and turn the edges of the tow or linen in as quickly as possible. Roll your poultice up and place it between the 2 hot plates to carry to the patient. Having put it on the patient, cover it with cotton-wool or flannel to retain the heat as long as possible.

Mustard Poultice.—This most useful application is made in a variety of ways. The simplest, the cleanest, and most efficacious for ordinary purposes, we believe to be the following: Take a piece of soft flannel, dip it in boiling water, wring it out immediately, and sprinkle one side of it with fresh flour of mustard. The flannel should be laid upon a hot plate while being sprinkled, that no warmth may be lost. Another way of making a mustard poultice is by spreading a large tablespoonful of mustard, made in the ordinary way as if for table, on a piece of soft linen, and warming it before the fire when it is to be applied. A third, and better plan if warmth be needed, is to make a common linseed or bread poultice and stir into it a tablespoonful of mustard, either fresh or mixed. It is generally desirable, with poultices made on either of the last two plans, to place a piece of fine old muslin or gauze between the poultice and the skin.

Mustard-and-Linseed Poultice.—Mix equal parts of dry mustard and linseed meal in warm vinegar. When the poultice is wanted weak, warm water may be used instead of the vinegar; and when it is required very strong, only a very little of the linseed meal must be added to the mustard. Apply in the ordinary way.

Yeast Poultice.—Take of beer yeast, 10 oz.; flour, 16 oz. Mix and expose the mass to a gentle heat till it rises, when it is ready for use. The yeast poultice acts as a stimulant and antiseptic, and is employed with benefit in ill-conditioned or badly-smelling sores; also in cases of mortification to destroy fœtor and assist in removing the dead tissues.

Besides the poultices mentioned there are others in very frequent use, such as those made from oatmeal, arrowroot; and others, which are much less employed, made from carrots, potatoes, onions, sweet apples, etc.

Ptomaine Poisoning

(See Poisons.)

Quarantine

A table showing how soon after an attack of infectious disease or exposure to infection a child may return to school without risk to himself or others will be found on p. 35.

Quinsy, or Tonsillitis

This is a severe inflammation of the throat, involving the tonsils and going on to suppuration. It is usually ushered in by chilly feelings, which are succeeded by fever. The speech becomes nasal and there is pain and difficulty in swallowing.

Treatment.—A mixture containing the following ingredients may be given with advantage: Steel-drops, 3 drachms; sulphate of quinine, $\frac{1}{2}$ a drachm; chlorate of potassium, 2 drachms; glycerine, $\frac{1}{2}$ oz.; water added to make 8 oz. A tablespoonful in water every 4 hours. The food should consist of milk, eggs, beef-tea, cocoa, etc.; pieces of ice may be given to suck. A medicated spray will afford much relief, and is preferable to gargling. A large fomentation round the neck will often relieve the pain.

Radium

This is a substance which is being increasingly used in the treatment of cancer. It is said that there are more cases of carcinoma treated by radium than by surgery. In cancer of the breast radium shows better results than surgery and the same may be said of cancer of the uterus. In many cases both surgery and radium are used, the growth being removed by surgery and the surrounding area treated by radium. In cancer of the tongue, mouth and throat, radium is the method of choice.

Rheumatic Fever

This disease is due to an infection of the system by a microbe called a streptococcus which gains its entrance into the body through the tonsils and throat. The disease is characterized by fever, redness and swelling of the joints, with great pain on movement, a coated tongue and profuse perspiration with a peculiarly sour smell. The joints may all be infected at once, but often the inflammation spreads from one joint to another. If left untreated the disease lasts about 3 weeks,

but under the influence of salicylate of soda (20 grains every 4 hours) the fever comes down and the pains in the joints diminish.

Treatment.—It is important, however, that the patient should be kept in bed at least 3 weeks, as although the symptoms and joint pains may disappear, the danger of infection of the heart, which is the supreme danger in rheumatic fever, is not removed. The heart should be examined daily and if found to be affected all possible exertion to the patient should be avoided. The degree of damage done to the valves of the heart depends very largely on the treatment at this period. The patient should on no account whatever get out of bed, and he should be spoon-fed.

If the sweating is profuse the body should be sponged twice daily with hot or tepid water. The joints should be wrapped up in cotton-wool lightly bandaged on. Salicylate of soda is the drug that so far has proved most beneficial in relieving pain and fever. Anti-streptococcic vaccine has been employed in many cases with good results.

The "growing pains" of children are always rheumatic in character, and have nothing to do with growth. They should never be treated lightly as valvular disease of the heart may arise, although the disability caused by the "pains" is not sufficient to make the child go to bed.

"Rheumatic Gout" or Rheumatoid Arthritis

Rheumatic Gout, or Rheumatoid Arthritis, is a disease affecting most generally the small joints, although if the disease is marked all the joints of the body may be attacked. The commonest manifestation of the disease is in the terminal and middle joints of the fingers. If the inflammation is acute there may be swelling, redness and pain in the joints, but the disease is often insidious in its onset and progress and may proceed to almost complete immobility of the joints without any very acute pain. The deformity it causes is often very marked, due to the erosion and absorption of the joint surfaces, and the patient may become completely crippled.

Causes.—All cases of rheumatoid arthritis are due to absorption of poison from some spot within the body, but it is often difficult to ascertain where the spot is. The commonest cause is pyorrhœa, i.e. a discharge of pus from the sockets of the teeth, but it may arise from a chronic abscess on the tonsil,

an ear discharge, a chronic inflammation of the appendix or gall-bladder, an abscess in the prostate gland or from an unhealthy intestine. The disease is said to be due to a particular kind of streptococcus.

Treatment.—The obvious treatment is to find the septic focus and eliminate the pus. Remove the teeth, tonsil, appendix or whatever organ may be found to be the origin of the trouble. In many cases it is very difficult to find the source, and the presumption then is that it is the intestine from which the poison is being absorbed. Measures directed towards obtaining a healthier state of the bowel should then be adopted, such as careful dieting and the use of saline and other aperients as cascara or paraffin. Vaccines are very often useful, especially those made from the patient's own microbes when the source of poisoning is known.

Rheumatism

Chronic rheumatism is a term used to include any chronic inflammation of fibrous tissue, especially that of the muscles, ligaments, and nerve coverings, which is caused by the specific rheumatic germ.

Symptoms.—The principal symptom is pain, which is almost invariably increased by any movement. It is also increased by such influences as exposure to cold and indigestion. Chronic rheumatism of this type is very common among middle-aged people, especially among the poor. Generally no alteration in the appearance of the joints can be detected, but a crackling sensation can often be felt when the joint is moved. The joint, however, is stiff and painful on movement and there is a dull aching pain, which is worse at night or in damp cold weather. When the muscles are affected the symptoms are more marked. The pain is usually more severe, and comes on suddenly. There is great stiffness of the muscles, with considerable tenderness. As a result of this the patient keeps the affected part as much at rest as possible.

Treatment.—In the way of treatment a calomel purge may be taken at the onset, which may be followed by a Seidlitz powder next morning. In the acute stage, when the pain is severe, 15 grains of salicylate of soda may be taken every 3 or 4 hours, the parts being kept completely at rest until the acute stage is past. After a few days 15 minutes' gentle massage should be given 3 times daily.

Prevention.—In the way of prevention sufferers from muscular and chronic rheumatism should follow Dr. Symes' advice and make every effort to improve the general health and muscle tone by judicious exercise in the open air—walking, riding and golfing. The bowels should be regulated by means of cascara sagrada or compound liquorice powder, and occasionally a mercurial pill should be taken. Turkish baths taken systematically may prevent the recurrence of attacks. If the tonsils are large, or the seat of chronic inflammation, they should be removed, and chronic rhinitis or pharyngitis should be corrected. Warm underclothing of wool is important; cold and damp, and especially the combination of the two, should be avoided. As indigestion not unfrequently precipitates an attack, the diet must be carefully regulated. The food should be plain, and the quantity of carbohydrates, sugar, sweets and potatoes should be limited. The amount of fluid must be in excess of the normal, and should be taken as far as possible on an empty stomach. A tumblerful of hot water before breakfast and on going to bed, and half a tumblerful half an hour before two meals in the day should be taken in addition to drinks taken with the meals. Ale, cider and stout are not suitable for persons subject to recurrent attacks of muscular or articular rheumatism. Residence in a dry, warm inland climate is desirable.

Rheumatism of the Joints or Muscles

Rub camphorated oil or a similar stimulating embrocation, such as hartshorn and sweet-oil, well into the affected parts with the bare hand for 15 to 20 minutes morning and evening. Flannel should be worn next to the skin. *See also* general treatment of Rheumatism.

Rickets

Rickets is a disease occurring mainly among the children of the poor, and beginning between 6 and 8 months. It is due to a deficiency of vitamin D, either due to poor diet or insufficient sunlight.

Symptoms.—The early symptoms are pallor, sweating (especially of the scalp), querulousness, throwing off of the bed-clothes, flabbiness of muscles and slight digestive disturbances. Later, changes develop in the bones with thickening of the wrists, knees and ankles, bowing of the tibiae, beading

of the ribs along the front of the chest to the side of the breast-bone and bossing of the skull so that the forehead becomes square and protuberant.

Causes.—The cause of rickets is deficiency of vitamin D. All the lion cubs born in the Zoological Gardens in London used to die young when fed on milk only : when cod-liver oil and ground-up bones, containing phosphates, were given, they survived.

Much experimental work has recently been carried out in Glasgow where rickets has always been prevalent, and in Vienna where there has been much malnutrition as a result of post-war conditions. From these experiments it has been found that rickets is definitely a deficiency disease, caused by the lack of vitamin D, due to poor diet or insufficient sunlight.

Treatment.—Treatment resolves itself therefore into good hygiene, suitable food and plenty of sunlight and fresh air. In babies avoid excess of starch—many patent foods contain it in excess. Give milk, and if over 7 months of age add bacon sop and the yolk of a lightly-boiled egg to the dietary. If over 1 year give butter, eggs, milk puddings, potatoes with gravy and green vegetables and administer cod-liver oil with phosphates. Heliotherapy, i.e. exposure of the body to the sun-rays for an increasing period each day should be employed and if the disease is sufficiently severe to preclude exercise massage may be employed. It is a mistake to put splints on bowed legs ; they should be exercised freely and exposed to the sun. Avoid excessive clothing and do not wrap children up too warmly.

Ringworm

This disease is caused by the growth in the skin of a low form of vegetable life allied to ordinary mould.

Ringworm of the scalp is sometimes a most intractable disease, especially when it has been existent for some time before its discovery ; and its cure will tax the resources of the most experienced doctors. Therefore prompt and vigorous treatment is essential. It shows itself as a dry scurfy or scaly condition of some portion of the scalp, generally in separate patches more or less circular, on which the hairs are broken off, and the surface presents a dirty appearance, with some redness beneath.

On the face, body or limbs, the disease appears in the form of rings of various sizes, generally fairly round and of a reddish colour ; they commence as minute points, and increase in size somewhat rapidly, healing in the centre as the disease progresses centrifugally. As the disease is infectious, children suffering from it must not go to school or play with others till they are cured.

Treatment.—The best mode of treatment for Ringworm is the daily application of Whitfield's ointment, or Iodine, unless the skin is sensitive. The latter should be applied by means of a camel-hair brush or feather, and repeated in a few days if necessary.

Old cases are still subjected to X-ray treatment.

Among the old popular remedies are ink and vinegar.

Great cleanliness is essential in this affection, and if the disease is situated on the scalp the hair must be cut away for some little distance round the diseased patch before applying the remedy. Removal of the diseased hairs by forceps speeds up the cure.

Rupture

(See Hernia.)

St. Vitus's Dance, or Chorea

A nervous disease, characterized by involuntary twitching movements in all parts of the body. It is closely connected with rheumatism, frequently following on rheumatic fever, and associated with heart disease. It is common amongst the poorer classes, especially those who do not get sufficient food and rest.

Treatment.—In many cases rest and good food will effect a cure. Cod-liver oil will help, but other medicines should be taken under medical advice. An attack usually lasts about 2 months, but it may go on for 2 years or more.

Salts of Lemon Poisoning

(See Poisons.)

Scalds

(See Burns and Scalds.)

Scarlet Fever, or Scarlatina

This is an acute febrile disease, producing a scarlet rash upon the skin, attended by a sore throat, and often swelling of various glands, and sometimes followed by dropsy. The disease is most prevalent during the last 3 months of the year, from October to December.

Many people confuse the terms scarlet fever and scarlatina, and imagine the latter is a milder and less dangerous affection; this is a great mistake, for scarlatina is only the Latin name for scarlet fever, and not a different form. Scarlet fever may be mild, or malignant, or latent. The period of incubation is generally less than a week, and may be only 24 hours.

Symptoms.—1. *Mild Scarlet Fever.*—The onset is sudden; there is sore throat with tenderness at the angles of the lower jaw, and stiffness at the back of the neck; vomiting is very common, and chiefly so in children; shivering and rigors come on, and occasionally convulsions in young children. The temperature rapidly rises, going up to 104° or 105° Fahr.; the pulse is very quick, the tongue is covered with a thin white fur; there is thirst and loss of appetite. This stage lasts from 12 to 30 hours, and then a rash comes out. Sometimes the earlier symptoms are so slight that the rash is the first thing noticed. This consists of small scarlet dots on a background of lighter red almost running together so as to give a flush all over the skin; the colour disappears on pressure, but rapidly reappears when the pressure is removed. It generally appears at first on the sides of the neck and upper part of the chest and in the bends of the joints; it then spreads downwards and is found to come out last on the legs; it begins to fade on the fourth or fifth day, and is generally quite gone within a week. The sore throat is always present in some degree; there is redness and swelling of the tonsils and soft palate, so that it is often very painful to swallow, while the glands beneath the jaw also swell and are painful. The temperature is generally high but rarely exceeds 105° Fahr.; it falls to normal during the second week of the illness, or seventh to tenth day of disease. In no fever is the pulse quicker and it may be 140 or 160 in a minute. Moderate delirium and headache are often present. After the rash has gone the epidermis is dry and harsh, and about the ninth or tenth day it begins to peel, and is sometimes cast off in large flakes, and this peeling may last a few days or several weeks.

2. *Malignant Scarlet Fever* is characterized by an increased severity of the above symptoms ; there are great prostration, delirium and sleeplessness ; the rash does not always come out well ; the face may be livid, and stupor and coma come on and end in death ; the throat is ulcerated, and there is much difficulty in swallowing.

3. *Latent Scarlet Fever* is when the disease is so mild that until the sequelæ appear one is not aware of having had scarlet fever. Sore throat may be the only symptom. There is no relation between the abundance of the rash and the danger to the patient. However mild the disease may be, the sequelæ may come on with great severity ; and the fever is just as likely to spread from a mild case.

4. *Sequelæ*.—After the fever has passed, a train of symptoms may follow, which are very inconstant in their character and of much danger to the patient. The throat may continue to be affected, and the glands outside may be inflamed and swell, so that the child's head seems incased in a collar ; often these glands suppurate, and a large ulcerated surface is then seen. Deafness may supervene, and a discharge from the ear. Bronchitis and pneumonia are not so common as in measles. Sometimes convalescence is retarded by abscesses forming in various parts of the body ; at other times there is a painful affection of the joints which resembles rheumatic fever. Acute nephritis is also one of the most usual sequelæ, but it frequently varies in different epidemics. Its onset is associated with a rise of temperature, headache, and often sickness and vomiting ; the face and loose parts of the skin are pale and puffy, which is best seen under the eyes and on the insteps ; the urine is scanty and dark ; loss of appetite is common, and convulsions sometimes occur ; renal dropsy often comes on 2 or 3 weeks after the first appearance of the rash.

Treatment.—Scarlet Fever is essentially a tonsillitis and treatment should therefore primarily be directed to the throat. Antiseptic sprays and gargles should be used and antiseptic lozenges of formalin or peppermint should be sucked. If the throat is painful hot fomentations should be applied round the neck, or ice may be sucked. The general treatment for fever should be employed and complications treated as they arrive. The poison of scarlet fever is eliminated chiefly by the kidneys and in this process the strain on them may be so severe that the kidneys themselves become infected and a

nephritis set up. The urine should be examined from time to time for albumen. If this is detected warmth and rest in bed are indicated, and the patient should be put on a milk diet with plenty of fluid to drink. Avoidance of meat and meat extracts till the urine is free and free purgation by means of salines are necessary. The skin should be made to act freely by means of hot baths or hot spongings. M & B drugs or Penicillin may be given under the doctor's orders.

The patient is not free from infection till all discharges from the throat, nose, ears and bronchi have ceased. The peeling skin is no longer recognized as a source of infection. Six weeks is the usual period of infection, but in mild cases the patient may be well in five weeks. During convalescence tonics should be administered.

If it is desired to ascertain whether a person is susceptible to or immune from Scarlet Fever the Dick Test may be employed. It consists in the injection under the skin of the forearm of a few drops of the diluted toxin of the disease.

Sciatica

Rub the limb well with chilli paste or belladonna liniment. Pure chloroform applied in the same manner will often give relief when other liniments fail. Give iodide of potassium in 3-grain doses, combined with 30 drops of compound tincture of cinchona 3 or 4 times a day. Salicylate of soda in 10-grain doses every 4 hours is very useful in severe cases. Injection of $\frac{1}{2}$ grain of cocaine into the nerve will sometimes cure sciatica at once, but this kind of treatment should only be used under medical advice. In severe cases of sciatica complete rest in bed is often the only sure treatment.

Scurf or Dandruff

(See Baldness.)

Sea-sickness

A specific remedy specially designed for the cure of sea-sickness and air-sickness is called Navigan. Two or three tablets should be taken half an hour before the passenger begins his voyage. The tablets may be repeated in a few hours if the nausea or vomiting continues.

Shingles

This form of skin eruption is also known as "herpes," or "water-blisters." Shingles is now known to be due to a very small organism closely allied to that causing chicken-pox; thus children should be kept away from a person having shingles in case they pick up chicken-pox. It is now restricted to a single form of skin disease, characterized by the presence of flat vesicles, generally grouped together in a peculiar way.

Symptoms.—The most common variety of this disorder is what is known as herpes zoster, zona, or "shingles"; also as ignis sacer, or zona ignea. In this the disease is limited to one side of the body, extending horizontally from the middle line behind to the middle line in front, and consists of groups of flattened vesicles with a certain amount of redness and tenderness of the skin between. Sometimes, when this attacks the region of the arms or legs, it runs down the limb; on the head it may occur over the eye, or about one ear, or on one side of the neck. The eruption is attended with very considerable pain in many cases, especially in older subjects. Some cases, formerly or wrongly called "erysipelas" of the head or face, are now known to be this affection. The causes of this acute inflammation of the nerve-trunk and the resulting inflammation of the skin are not always determined. Generally the exciting cause is cold; but, strange to say, it is extremely common for a person to have this eruption a second time.

Treatment.—The treatment of herpes is generally of a simple character. The general health should be improved in every way possible, and tonics are often useful in assisting to this end. The affected parts should be bathed and fomented with hot water and then dusted with starch powder mixed with a little oxide of zinc and camphor, and then covered with a thick piece of cotton-wool to exclude the air.

It has been found that the infection of chicken-pox is sometimes conveyed by a patient suffering from shingles, and if a pupil at school he or she should be kept away until the eruption is cured.

Shock

After a severe—or sometimes even after a slight—accident, and after a fright, some people suffer from collapse or shock. They will be faint, depressed, and cold; the pulse will be weak

and difficult to count and the breathing shallow, the face pale and pinched and the expression alarmed. Sometimes this condition is so severe that it ends in death, even when the accident itself has been but slight. The degree of shock depends upon the temperament of the sufferer, being much greater in those of a weak and timid disposition.

Treatment.—Recumbent position, application of warmth to body and limbs, friction and massage of limbs, rubbing towards the heart. Give hot drinks, tea or coffee, and if the nature of the accident will permit, a little weak stimulant, also hot. Loosen all tight clothing, and if the patient is conscious, cheer him up as much as possible. *See also* Electric Shock.

Sick-headache

(*See* Migraine.)

Sickness

(*See* Vomiting.)

Sick-room (*See* p. 230.)

★ Skin Diseases

It will be useful to give a general idea of the way in which the skin becomes diseased and a sketch of the more prominent affections and their means of recognition and prevention as far as possible, together with home remedies and measures, for their actual treatment must always be entrusted to the doctor and sometimes to a specialist. First may be mentioned some of the popular ideas in regard to these affections, with criticisms upon them. Diseases of the skin are frequently, if not generally, looked upon as loathsome; and many fear to touch them lest they should contract the disease. In regard to this, it may be stated that there are only two or three which are infectious and that not one case in fifty could give the disease to another person. They are also regarded as indicative of something evil, of which the owner should be greatly-ashamed; and any eruption on the skin always subjects the bearer to a certain amount of suspicion that something was wrong on the part either of the sufferer or his ancestors. In answer to this, we may say that the skin is subject to many diseases of whose origin the patient and his progenitors are quite as innocent as is the sufferer from common cold, pneu-

monia, or fracture. Few of the eruptions have any connexion whatever with syphilis.

Again, many suppose that cutaneous disease is an outward expression of some poison which thus seeks exit from the system ; and that if it is only allowed to work itself off through some eruption, all will be well. It is needless to do more than to deny all such crude dogmas and to assert plainly that there is no scientific ground whatever for such assumptions. There is no more mystery in diseases of the skin than in those of any other organ. As a variety of this form of popular thought, we have also the expression of "bad blood" as a cause of skin diseases, and many complain that their "blood is in a dreadful state," adducing as a proof the eruption on the skin. Now, nothing, or next to nothing, is definitely known in regard to the condition of the blood in disease, beyond a comparatively few well-established facts ; chemical and microscopical study fail to show that there is "bad blood" in any of the diseases of the skin. It is, however, true that imperfect digestion has much to do with some skin diseases and that internal remedies are necessary in very many of them arising from constitutional conditions ; but it is equally true that certain other skin diseases are local in origin and have nothing to do with the blood.

In consequence of the prevailing idea that any disease of the skin must be the result of some internal ferment, the external manifestation of "bad blood" seeking to gain exit, the dangerous opinion is very prevalent that it is not safe to cure eruptions on the skin, lest the disease should fly to some other part of the system ; one hears continually the fear of the disease being "driven in," or "striking in." Now, this fear rests on no grounds whatever, either scientific or practical, as may be readily demonstrated. Authorities are agreed on this matter and the strongest confirmation of it is found in Vienna, where the treatment of skin diseases is almost entirely by means of local remedies ; and those who know most about it insist positively that no harm has ever come, within their experience, from the cure of cutaneous diseases.

As examples of the varieties of diseases of the skin, certain ones are caused by the growth of vegetable parasites, like a mould, on and in the skin, and others are due to the presence of animal parasites, as itch or scabies. Then there is a group whose seat is in the glands of the skin ; acne, or the pimples

which occur on the face of young people, being located in the sebaceous glands; while certain disorders of the sweat glands are also recognized. Next we have the class called "neurotic affections," because they are due to a nervous cause, such as shingles (or herpes zoster), pruritus, etc. The exanthemata embrace a number of infectious, eruptive, febrile diseases, as measles, scarlet fever, small-pox, etc. We have also a large group of diseases which have so much inflammatory element that they are called exudative or inflammatory affections, the most prominent of these being eczema, other members of the class being erythema, urticaria (or "nettle-rash"), boils, etc. In this class are grouped thirty-one distinct diseases.

Another group is formed by a few diseases which are characterized by hæmorrhage into the skin, as purpura and scurvy. Then there are others known as hypertrophic affections, because there is hypertrophy, or increase of some of the elements of the skin. Such are ichthyosis (or fish-skin disease), warts, elephant leg and several others. Another class is composed of trophic affections, where there is atrophy, or loss of some of the elements, such as alopecia (or baldness). Lastly we have a variety of diseases caused by a new formation, or new growth, in the skin, under which head comes lupus, cancer, syphilis, leprosy, etc.

Exercise, rest, sleep, the care of the skin, as in bathing, the air we breathe, the sleeping apartment, the dryness of the living-room, sunlight, etc., are all points which may play more or less important parts in the production or continuance of disease of the skin. Sedentary habits are undoubtedly the cause of many of these affections and unless they can be changed, permanent cure cannot be effected in many diseases. Walking affords sufficient exercise if taken briskly, but the saunter is hardly capable of quickening the circulation enough to cause the proper blood changes to take place. The distance walked must vary, of course, with the patient; but from 2 to 4 miles daily is a small rather than large amount for the healthy person to average. Riding on horseback often assists greatly in the cure of skin disease; motoring, even if for long distances, does not give sufficient active exercise. Rowing, boating, tennis, golf, etc., should all be encouraged in those with chronic skin disease, for a large proportion are associated with a sluggish state of the system.

Those diseases of the skin the cure of which is found most tedious and most difficult generally occur in the sedentary class. Shoemakers, tailors, weavers, and artisans who work many hours in close factories and offices often suffer severely, not only from impaired health but also from various cutaneous maladies arising from breathing impure air, from suspended perspiration and disuse of the muscles of locomotion. The bowels are generally constipated and in women menstruation is scanty and painful ; while both sexes complain of headache, dyspepsia, nervousness and debility. Yet the remedy is much in their own hands. Most of them reside either in the country or within easy walking distance of a public park. Early in the morning, in the summer especially, for 1 or 2 hours before the day's work begins, the air of these parks is pure. A walk of 3 or 4 miles before breakfast, when once it becomes a habit, gives strength and a zest for the sedentary toil of the day.

Overwork and too little sleep are fruitful causes of many of the skin diseases, with nervous elements, and should be regulated. Neglect of bathing and friction to the skin may produce disease ; although over-stimulation is also quite as bad in some cases. Some skin diseases are certainly much worse in winter, as chronic eczema and pruritus, while others are more apt to give annoyance in summer, as urticaria, acute eczema, prickly heat, etc.

As a rule, the more acute eruptions are worse at the seaside and the greater number are benefited by mountain air. Acne is almost invariably made much worse by sea air and bathing ; old eczema patients are often much better at the seaside ; but if there is any raw surface, it is aggravated by sea-bathing. Psoriasis is helped by the sea, and warm sea baths may even be taken in winter with advantage in this complaint.

Popular opinion favours greatly mineral springs in cases of diseases of the skin and they are resorted to indiscriminately by those suffering from them. There can be no doubt of their efficacy in certain diseases, but they are not to be used rashly without a definite knowledge of what is to be accomplished ; waters which may be beneficial in some eruptions are harmful or inefficacious in others. Special advice should be sought from doctors familiar with the subject ; but to go to any health-resort unintelligently is like visiting a chemist's shop, because sick, without a definite prescription. Foul

air, in the sleeping-room, living-room, or office, is a matter which should never be neglected either in disease of the skin or of any other organ, or in health, for by lowering the vitality disease is invited. Dampness of rooms may in the same way give trouble; and also too great dryness—as by furnace-heat without evaporating water—can dry the skin too much and cause it to become diseased.

Sunlight is as necessary to health and life in the human being as it is in plants and flowers. All know that these will not flourish on the north side of a house, or if deprived of the actual rays of the sun, however light their surroundings may be. Just so, as an element of health of the skin and other organs, sunshine is essential to man, and the avoidance of it, wilfully or carelessly, is a cause of the occurrence and obstinacy of disease.

In conclusion, it may be said that in chronic skin diseases the whole system is deranged and to accomplish their cure and prevent their return, it is frequently necessary to alter the conditions of the system. To accomplish this, it is not enough to apply a wash or a salve, or take a few drops of this or that remedy, but by a combination of all the means known to science, by diet, hygiene and medicine, the disordered organ and system must be restored to the state of health. And the application of the same rules, together with self-restraint, will serve to prevent a recurrence of the skin disease.

Diet is of varying importance in the different affections of the skin and in purely local ones, such as ringworm, is of no consequence. But all diseases indicate debility, and even those depending on local causes may demand constitutional, dietetic and hygienic treatment. In some diseases, as, for instance, nettle-rash, diet is all-important, for the very article that produced it may be indulged in and render the disease incurable. Certain chronic skin diseases originate in or are fostered by errors of diet. The fermented liquors, ale, beer, wine and cider are very frequent causes of skin diseases and of their continuance and must be avoided by those subject to them. A return to their use is frequently followed by a relapse of the disease.

A healthy appetite and common sense are the best guide in the matter of diet, but the refinements of civilization add greatly to the temptation of over-eating and wrong eating. The infant, when over-fed by the indulgence of the mother

whenever it cries, rejects its milk by a natural process and is saved much sickness thereby. The Chinese gourmand is said to take an emetic that he may again gratify the taste of eating, and the Roman epicure frequently relieved his stomach by artificial production of retching in order to go on eating.

Convention to-day rejects these disgusting devices, but takes the dinner pill, or the aperient mineral water, to carry off that which should never have entered the stomach. The result of this over-eating is that the organs of digestion are impaired; the mass of partly digested food is hurried along; the blood absorbs the products of imperfect digestion; the organs cannot get rid of the waste matter already circulating in it. As a consequence, we have sick-headaches, biliousness and skin diseases. Medicine is taken, the organs are whipped into action, the surplus is carried off; there is some relief; the organs rest from their extra work; the full diet is maintained; and the process is repeated again and again.

Salted meats and salted fish are popularly supposed to act prejudicially in skin diseases and rightly so. They should be avoided in these affections, as also pickles, olives, rich salads and the like: likewise stimulating sauces, pepper, etc. There is, however, no objection to acids in most skin affections and a certain amount of vinegar is often beneficial. The only exception to this is, perhaps, in the case of nettle-rash.

A very great error is often made in the amount of liquid consumed during eating. This is especially true of large amounts of tea, which has repeatedly provoked skin diseases. There is no objection generally to the use of a small amount of coffee once daily and tea once daily. But many persons consume very much water with their meals. This should be avoided and as little as possible drunk. Nor should a large amount, as a tumblerful, be taken directly after eating; for the effect is the same, namely, to chill the stomach and arrest digestion. Water should be avoided as largely as possible until at least one hour after eating. Sometimes a cup of very hot water taken a quarter to half an hour before meals will take away the craving for water and greatly benefit any existing indigestion.

Rapid eating and imperfect chewing are very fertile causes of trouble and should be attended to.

The process of digestion begins in the mouth and unless the food is properly chewed and mixed with saliva (which latter

produces certain digestive changes in it), the other organs cannot do their work properly. Women who have eruptions in the face are apt to adopt too low a diet, under the notion that it is cooling and will, therefore, relieve the heat and redness of the skin: whereas the disease itself may depend on debility and may require ample nourishment for its removal.

There are other cases in which the eruption is not red and the patient, imagining that it depends on poverty of blood, may have indulged indiscreetly and perhaps injuriously in a rich diet. The pulse is sometimes an excellent guide in these cases. But, as a general rule, severe cases of scaly, papular and vesicular disease (such as lepra, lichen and eczema) require a low diet and cooling regimen; while pustular, erythematous and bulbous disorders ordinarily require a full diet. But there are exceptions and these can only be diagnosed by the symptoms which indicate the state of the system.

Sleeplessness

Thousands suffer from wakefulness who are otherwise in good health. To some of them this becomes a habit and too often a growing one. The great thing, in most cases, to procure sleep, is to obtain absolute rest of mind. To men of active brain this is sometimes singularly difficult and many plans have been proposed to overcome the difficulty. They all consist in this: in attending to something of absolutely no interest, of a dull, monotonous nature. One in imagination watches sheep jumping through a hedge; another fancies he sees ships sailing out to sea. And many, doubtless, have heard of the midshipman who, when he could not sleep because there were no waves beating against the sides of the ship, got his mother to imitate the familiar sounds by dashing pailfuls of water against his bedroom door.

One remedy for want of sleep—less original, perhaps, than any of the above, but often effective—is nothing more nor less than eating onions. Common raw onions should be taken, but Spanish onions stewed will do. Frank Buckland kindly said: "Everybody knows the taste of onions; this is due to a peculiar essential oil contained in this valuable and healthy root. The oil has, I am sure, highly soporific powers. In my own case it never fails. If I am much pressed with work and feel I shall not sleep, I eat two or three onions and the effect is magical."

Dyspeptics are seldom sound sleepers and in many cases the first thing to be done is to get the digestion in good order. This little fact shows the importance of dealing with every case on its own merits and not by mere routine. Thus, we have known a person take chloral who passed sleepless, or worse than sleepless, nights and was troubled with evil dreams and nightmare as soon as his eyes were closed. As a consequence, the dreams and nightmare were worse than ever, but a blue pill and a black draught speedily secured sound and refreshing sleep.

Constipation and interference with the functions of the liver are serious enemies to satisfactory repose. To many a due amount of exercise in the open air is absolutely indispensable, if sleep is to be procured; and it is often observed that a buffeting with the wind causes sleep sooner than any other form of exertion. The diet, too, must be attended to, if sleep is to be refreshing. Here every man must be a law to himself, for what soothes and comforts one man may excite another and prevent sleep. There is, however, one fixed rule, and that is never to go to sleep with an undigested meal in the stomach if it be at all a heavy one. To this end many do much better by making their chief meal early in the day and only taking a light meal in the evening. Tea and coffee taken late in the day are particularly prejudicial in the interests of sleep. The influence of these, however, differs in different individuals; in some, tea is more stimulating than coffee; in others, the reverse is the case.

Going to bed at a certain regular hour, be this what it may, is powerfully conducive to sleep; habit here becomes all-powerful. It is, too, advisable to finish the work of the day some time before going to bed. If that work has involved physical energy, the rest will often be enough of itself; if it has been head-work, a change is often best. For many persons there is no preparation for sleep equal to a pipe and a novel; to others this would be poison. To many a "night-cap" is essential. If indulged in with discretion there is nothing to be said against the practice, except this: should the individual be so situated as to have to go without his accustomed stimulant, he will most probably pass a sleepless night.

The condition of the body exercises a great influence, either good or evil, upon the chances of obtaining sleep. When the feet are cold or damp on going to bed, a refreshing sleep

is impossible; therefore it is a good plan to spend a few minutes before going to bed in drying and warming the feet, with the stockings off. Indians and hunters always sleep with their feet towards the camp fire.

Suspense is a powerful sleep-preventer. Thus Dr. Carpenter says, "It is a common observation that criminals under sentence of death sleep badly so long as they entertain any hopes of a reprieve; but when once they are satisfied that their death is inevitable, they usually sleep more soundly and this even on the very last night of their lives." Among the simple and almost hygienic means of promoting sleep, it may be mentioned that, if restlessness seems to be due to congestion and heat about the head, cold water or cold vinegar-and-water sponged over the forehead and temples will help to relieve it, particularly if other parts of the body are kept warm.

The bed-chamber should be well ventilated by having the window open at the top and the temperature ought to be kept about 20° Fahr., or even (for robust persons) 25° Fahr. below that of ordinary sitting-rooms. An exception, however, is to be noted in regard to all children and to invalids, especially if suffering from diseases of the lungs and throat. (See also Importance of Sleep, p. 32.)

Sling for a Broken Arm

(See Bandaging.)

Sluggish Liver

(See Liver.)

Small-Pox, or Variola

This is a febrile, eruptive and infectious disorder, which in the past raged with much violence, but in recent periods has been vastly controlled by the discovery of vaccination. (See Vaccination.) The most common varieties are: the *discrete*, in which the pustules are distinct; the *confluent*, in which the pustules run together; the *malignant*, which is often associated with purpura and an eruption resembling measles—a very dangerous form; and the *modified*, which comes on in those partially protected by vaccination, and is a kind that runs a very mild course. In cases of small-pox there are: (1) the stage of incubation, which lasts 12 days from the date of receiving the poison; (2) the stage of eruptive fever, lasting

48 hours ; (3) the stage of maturation, wherein the rash is fully developed, lasting about 9 days ; (4) the stage of secondary fever or decline, lasting a variable time, according to the severity of the disease. Discrete small-pox is, next to the modified, the simplest form of the disease, and is rarely attended with danger to human life. Confluent small-pox is much more serious, and often proves fatal. In the discrete or distinct form the primary fever is less intense than in the confluent form ; in the latter there is often delirium, and more especially in intemperate persons. The malignant variety is terribly fatal ; the blood seems profoundly poisoned from the first, and is more fluid than usual ; bleeding from the mouth, nose and bowels is not uncommon ; in women there are also genital bleeding and other disastrous results. In modified small-pox the patient is often able to keep about the whole time, and the rash may suddenly decline on the fourth or fifth day, and recovery follow.

Symptoms.—The disease begins with shivering or rigors, pain in the back, vomiting, thirst, headache, and a general feeling of indisposition ; in children, convulsions may come on. In many cases the rash of small-pox in vaccinated cases is preceded by a more or less scarlet or roseolous rash, which is mottled over the body. If the finger be pressed on the forehead, a sensation is experienced as if pressing small shot, for the rash of small-pox generally commences there ; at first a pimple forms, but afterwards a pustule, and then dries or scabs over, and leaves a pit or depression behind. When the rash comes out the temperature falls, but rises again about the eighth or ninth day ; in mild cases, however, the secondary fever is hardly perceptible. The eruption usually appears first on the forehead, face and wrists, then on the rest of the body, coming out on the legs and feet 2 days later. The eruption takes about 8 days to arrive at its full development ; during this time there is much swelling of the face and eyelids, so that the patient cannot see for a few days ; in bad confluent cases the face seems covered with a mask, and a disagreeable odour proceeds from the body. Boils are apt to form in cases of confluent small-pox ; the victims are also very subject to pleurisy, pneumonia and bronchitis ; sometimes the tongue is much swollen and dry, and the patient may be unable to close the mouth or to speak ; this is a very bad symptom. Inflammation of the ear, fol-

lowed by an abscess, is not uncommon in this disorder. Erysipelas, gangrene, and pyæmia are occasionally met with. Inflammation of the eye and ulceration of the cornea may add to the general mischief. A medical man must always be called in when small-pox appears.

Treatment.—In the early stage, poultices and hot bottles will relieve the pain in the back and the chilly feeling. If the fever is high and delirium is present, sponging the body with tepid water is beneficial. When the eruption appears, warm baths are to be given night and morning. The pocks should be treated with some antiseptic application, such as carbolized oil or zinc ointment, or dusted with finely-powdered boracic acid, as soon as the scabs come away. Painting with flexible collodion will both allay the irritation and in many cases prevent pitting. Dilute acetic acid, 1 part to 4 of water, often relieves the intense itching. Pitting is worse when the scabs are scratched away.

Snake-Bites

Bites received from serpents are often exceedingly formidable injuries, and may be followed by death within a few hours, so that prompt action is necessary. The adder is the only snake in the British Isles whose bite is poisonous. It is rarely fatal.

Symptoms.—The symptoms are general collapse, feebleness of the pulse, blueness of the face, and clamminess of the face and extremities, with swelling and discoloration round the bite.

Treatment.—The injurious and fatal effects of snake-bite are due to the absorption of the poison into the system by the blood-stream. Efforts must be directed therefore towards the *elimination* of the poison, the prevention of its absorption, and to its neutralization in the tissue. Incise the site of the bite with a scalpel, making several incisions $\frac{1}{4}$ of an inch deep and apply suction either by the mouth or by means of a cupping glass—ligature the limb above the bite and inject hypodermically 5–10 drops of adrenalin solution to delay absorption: rub crystals of potassium permanganate into the incisions, or, if at hand, inject Calmette's antivenene. Stimulants, such as sal volatile or brandy, must be freely given, and digitalis should be administered to support the heart's action

Snoring and Snuffles

These result from impediment to breathing, either through the nose (closed nose) or through the throat. If they are persistent, and not merely due to temporary catarrh, a doctor should be consulted, as very probably there is a spongy growth (adenoids) at the back of the throat, with or without enlargement of the tonsils. This may require removal to effect a cure. (*See Adenoids.*)

Soda Poisoning

(*See Poisons—Alkalies.*)

Somnambulism

This is a singular condition of the body, in which a person performs many voluntary acts, implying a certain degree of perception of the presence of external objects, but without consciousness while the actions are being performed and without recollection of them when the consciousness returns. This affection, as its name implies, is commonly considered as an imperfect degree of sleep, as it most frequently occurs after sleep, and seems to be but a more active exertion of volition than that which takes place in imperfect sleep, when we move and even talk and support ourselves in various postures. In those cases in which sleep-walking is habitual, the friends should take care either to have the bedroom windows secured or allow the victims the use of a room on the ground floor. There are many instances in which a somnambulist has safely negotiated dangers that would have tried the nerve of the most wakeful, but accidents, sometimes fatal, are not unknown in this state. When a somnambulist is detected in the act of walking, he should not be roughly aroused to consciousness, but gradually awakened.

Sore Nipples

(*See Nipples, Sore.*)

Sore Throat

This is a general term for a painful affection of the structures at the back of the throat, i.e. the tonsils, palate and uvula, the pharynx and the larynx. These may become inflamed by being (a) infected with a germ, (b) damaged by some chemical irritant, such as tobacco smoke, sulphur

fumes, or the atmosphere of dusty and ill-ventilated rooms (c) strained by excessive use as in clergyman's sore throat, or by overuse in shouting, as in costermonger's.

If the infection is *acute* it is due to the invasion of the tonsils by a microbe and is generally designated tonsillitis (see p. 177.)

If the infection is *chronic* it may be due to a continued re-infection from some discharging and unhealthy tooth, or from some deep-seated chronic abscess in the bed of the tonsil, which is more frequently met with than might be supposed, or from over-use of tobacco in cigarette smoking (one of the most common causes), or from over-indulgence in alcohol, or from inhalation of acid fumes in certain trades, such as colour printing.

"Clergyman's Sore Throat," a chronic pharyngitis, is met with in people who habitually overstrain and misuse the voice. On the pharynx are generally seen sago-like granules which are sensitive and tend to make the throat irritable.

Treatment.—If acute treat as you would tonsillitis (q.v.). In the chronic cases remove the source of irritation, discharging tooth, unhealthy environment, cigarette smoking, etc. Give antiseptic gargles and sprays, e.g. boro-thymoline, apply hot fomentations round the neck, make the patient suck antiseptic lozenges. If the larynx is involved inhalations of Friar's Balsam may be used and a fine atomiser spray, preferably with some antiseptic suspended in oil, employed 3 or 4 times a day. In the chronic pharyngitis associated with granules, the granules should be burnt away with the actual cautery or with silver nitrate. The effect of this is sometimes immediately beneficial.

Spasms

Spasms is a term used to denote a painful, colicky contraction of the bowel due to some irritant, either in the form of some indigestible article of diet or some tainted food.

Treatment.—Apply hot fomentations to the abdomen and administer a purge of 5 grains of calomel. Rest in bed is indicated if pain is severe.

Specks before the Eyes

These are generally indicative of a sluggish liver, and may be readily removed by taking the old-fashioned blue pill at

night, followed by a black draught or Seidlitz powder in the morning.

Splints for a Broken Leg

(See Bandaging.)

Sprains

Symptoms.—Swelling round a joint, severe pain, increasing when moved. Inability to bear the weight of the limb and absence of all special signs of dislocation and fracture, e.g., immobility, changed shape, etc.

Treatment.—Foment the part well with warm water, then brush tincture of arnica over it with a camel-hair brush several times a day. In place of the fomentations, cold water bandage or lint well moistened with lead lotion or an evaporating lotion containing methylated spirit, often gives relief, or a bran-bag dipped in hot vinegar is useful. When the more acute symptoms have passed, wrap the part in cotton-wool, and apply a good firm bandage (india-rubber if it can be had) to diminish the swelling and give a feeling of security when the patient is able to move about. Later on, if the part is still not quite right, use the cold douche, and friction it with a rough towel. (See Embrocations.)

"Squint"

The strain of the accommodative power in hypermetropia is the cause, in a great majority of cases, of squint, or "cross-eye." The demand for excessive accommodation causes an unusual tendency to convergence, which ends in a permanent turning inwards of one eye. This kind of squint usually begins in children 3 or 4 years of age, or older, at the time when they begin to occupy themselves with near objects, as toys and pictures and to demand accurate vision. At first it occurs only when the eyes are directed to some near object; then occasionally, even when a distant object is looked at steadily or carefully, particularly if the child is not well and is, therefore, less equal to the strain than usual; and, finally, one eye remains constantly turned in towards the nose. The origin of the squint is frequently referred to some attack of sickness as measles, scarlet fever, whooping-cough, or convulsions. This may be merely a question of coincidence, as these diseases occur very frequently at about

the age when squint is developed ; or they may act as exciting causes, by reducing the strength of the patient, so that the eyes are less able to bear the strain ; but the real cause is a defect in focus, due to the fact that the eye is not properly formed—is not “according to measure.” When a want of harmony in the action of the external muscles of the eyeball causes the image to fall on parts of the retina which do not correspond, double vision at once results. To avoid this annoyance, persons with squint have to use only one eye ; the image on the retina of the other is said to be “suppressed.” In consequence of the constant suppression, the vision of the squinting eye becomes greatly impaired, in fact, accurate vision is lost, though the eye remains perfectly healthy. In the early or periodic stage, before it becomes constant, this kind of squint may be cured by correcting the optical defect with proper glasses, which remove the cause by taking away the strain. Of course there are obvious difficulties in the way of this treatment in the case of very young children. It is worth some trouble, however, to remove so great a deformity without an operation and at the same time to preserve the sight of both eyes, which is rarely, if ever, done by even the most successful operation, after the defect has been for some time established. After the squint has been cured by an operation, there is danger of its return unless glasses are worn. In high degrees of short-sight there is an excessive demand made upon the muscles that move the eyes inwards (converge them) in the effort to keep them both fixed upon small objects held close to the face. Sometimes they prove unequal to this strain and give out, and one eye is turned outwards by the opposing muscle, forming an external squint. The constant strain involved in the effort to overcome this tendency to external squint is prominent among the causes that increase short-sight and, when it cannot be relieved by suitable glasses, an operation is sometimes necessary. This insufficiency, as it is called, of the muscles that move the eyeball to do the work demanded of them, sometimes exists without short-sight. These are the principal, but not the only causes of squint. A squint occurring suddenly, with double vision, is generally the result of paralysis of one of the external muscles of the eyeball and is frequently the first symptoms of serious disease of the brain. Such a case should receive immediate medical attention.

Stammering

Stammering and stuttering, though commonly confused, are not identical. Stammering is due to one or both of two causes, spasm of the muscles of the lips and tongue or of those governing the supply of air needed for the emission of sound, or imperfect co-operation of the muscles used in speech.

Stammering is a spasmodic arrest of speech due to one of these causes, whilst stuttering is the spasmodic repetition of words or the first syllables of words. The latter is the less common impediment to speech, and is also the more difficult to cure. The first step in the treatment is to discover which part of the mechanism is at fault, and to endeavour by means of suitable exercises, respiratory and other, to restore the muscles to their normal state. The symptoms of the ailment are very helpful in determining the proper treatment; as, for example, in the case of stammering due to spasm of the cords which control the exit of the breath. In this case the patient may stand speechless and breathless for several seconds, and when the spasm relaxes he will pour out his words in a rapid stream, so as to pronounce as many as possible before the next intake of breath, which may entail a recurrence of the spasm. In these cases respiratory exercises are obviously needed, and the patient should be made to draw deep and even breaths for a specified time daily. In the case of imperfect co-operation between the respiratory and articulating muscles the patient will place his mouth and throat muscles in position for pronouncing the desired word, but at the proper moment the respiratory muscles do not permit the escape of the necessary amount of air for the production of sound. The word is perfectly shaped, but the sound is wanting. It is a curious fact that stammering is five times more frequent in boys than in girls.

Stammering children should always be examined to make sure that there is no mechanical impediment, such as adenoid growths, to be found. Such should of course be removed if present. These are, however, very rarely the sole cause, though they may be contributory.

Dr. Guthrie points out that in the great majority of cases the fault is respiratory. The patient must therefore be instructed in the first place how to increase the vital capacity of his lungs by exercises such as those suggested above. He must also be taught to control the exit of his breath, first

without, and secondly together with vocalization. He must learn to vocalize his vowels with steady prolonged resonance, and to direct his attention to this, rather than to articulation. He must intone the vowels, and be shown how to introduce the consonants meanwhile, as for instance in uttering the sound O-Mo, O-Do, O-To, etc. He will thus learn that vocalization of vowel-sounds aids in giving utterance to the consonants over which he stumbles.

Stiffness

Treatment.—Stiffness of the joints and muscles is usually cured by hot baths and massage.

Stimulating Liniment

(See Embrocations and Liniments.)

Stimulating Lotion

(See Lotions.)

Stings

If the sting still remains in the wound, it must be removed, then some alkaline lotion, such as a little ammonia water, liquor potassæ and water, or bicarbonate of soda and water, should be applied to the part. The pressure of a hollow key will often force a sting sufficiently above the skin to enable it to be seized with tweezers.

Stitch

Many people on running, especially young people, develop a pain situated at the edge of the ribs. If they rest for a short time this pain disappears, and they can then resume their exercise. This pain, or stitch, has been regarded as due to a pull on adhesions formed by an old pleurisy; but it occurs in many people with no history of any attack of pleurisy and is too common to make this explanation probable. It is more likely to be due to a distension of the bowel with gas in the region of the splenic and hepatic flexures of the large intestine. These are situations in which the bowel makes a sudden sharp turn, and where gas is therefore more likely to become pent up. Its rapid disappearance on resting favours this explanation. The treatment of the condition consists in keeping the digestion healthy and the bowels regular.

Stomach, Pain in the

This is a term used commonly to denote abdominal pain and is not confined to pain arising from the digestive sac, properly called the stomach. Under this heading we will deal only with those cases of abdominal pain arising more or less suddenly and where it is the main symptom.

Abdominal pain may have its origin in the (a) stomach; (b) intestines; (c) gall-bladder; (d) kidneys; (e) bladder; (f) pelvic organs.

(a) In the stomach it may arise from (i) indigestion, (ii) gastric ulcer, (iii) cancer.

(i) In indigestion the pain is situated in the epigastrium (i.e. in the middle line between the ribs), or under the ribs on the left side: it varies in intensity and it may be acute, but it never causes collapse of the patient. There is generally a history of some indigestible article of diet and the pain is easily removed by simple remedies such as bicarbonate of soda and peppermint water.

(ii) In gastric ulcer there is pain occurring after a meal, either immediately or within half an hour. It is situated as in indigestion. The diagnosis of ulcer is confirmed by the vomiting of material like "coffee grounds" and by the presence of black, tarry matter in the stools. The pain is sometimes present before a meal and is relieved by the taking of food. A sudden agonizing pain may arise from perforation of the ulcer, the contents of the stomach emptying themselves into the abdominal cavity. The pain is very intense, primarily over the stomach area proper, but soon spreading all over the abdomen. The patient becomes collapsed and sweating, with feeble pulse. In these cases there is always an antecedent history of indigestion and the only hope is a speedy operation.

(iii) In cancer, which is a chronic progressive disease, the symptoms are also chronic and progressive. As in ulcer sudden acute pain may be caused by perforation of the stomach.

(b) Intestines. Pain may arise from (i) colic, (ii) duodenal ulcer, (iii) appendicitis.

(i) The pain in colic is situated in the lower part of the abdomen, generally below the navel and shifts from side to side as the various parts of the bowel become constricted with spasm. The pain is intermittent and is generally relieved by simple remedies such as fomentations, etc.

(ii) Duodenal ulcer gives pain situated just to the right of the navel, coming on an hour and a half to 2 or more hours after food, and lasting some time. There is generally an antecedent history of indigestion, flatulence and acidity, and the diagnosis is strengthened by the presence of tarry matter in the stools. Perforation of the ulcer will give rise to sudden collapse and intense pain and vomiting as in gastric ulcer. The patient may have sudden collapse without pain from hæmorrhage from the ulcer.

(iii) Appendicitis. The pain is generally situated in the lower part of the abdomen on the right side midway between the navel and the prominence of the hip bone (the iliac spine) where it is immediately under the skin. The pain is not always felt here, but may be most acute in the epigastrium or in the loin, but in all cases a tenderness is felt over the point indicated above. The attack is usually accompanied by vomiting, and there is generally fever which in fulminating cases may be high. In any case of pain in this region, medical advice should be sought at once. The diagnosis is of the utmost importance, as many lives are lost by delay in operating.

(c) Gall-bladder. Pain arising from this organ is usually felt just under the ribs on the right side 4 to 6 inches from the middle line. It is often intermittent in character. If a gall-stone is present the pain may be so acute as to make the patient writhe, sweat and become collapsed, with feeble pulse. Vomiting may take place. The pain will last until the stone is passed into the intestine or retracted again into the gall-bladder.

(d) Kidney. A stone in the kidney will cause severe pain in the loin, running down the abdomen into the groin and testicle and may even be felt in the heel. If the pain is very acute it may be accompanied by vomiting and collapse. There is frequent desire to pass water and blood may be passed in the urine, causing it to be of a dark brown colour.

(e) Bladder. A stone in the bladder will give pain over the bladder region. If the stone is being passed the pain will be very acute and will be felt also at the end of the penis. It is accompanied by frequent desire to pass water, in which may be blood of a bright red colour.

(f) In the female, apart from the pain accompanying menstruation, inflammation of the Fallopian tubes, twisting of the pedicle of the ovary will give rise to pain, often acute in

degree, over the iliac region, groin and upper and inner part of the thigh.

Stone

Stone forms in the kidney or bladder as the result of the deposition of certain crystalline substances on a nucleus of blood clot, mucus, or epithelial cells. The substances thus deposited are uric acid, the urates, calcium oxalate and phosphates. Their deposition is favoured by sedentary habits, excessive meat diet, concentrated urine from insufficient drinking of water or other fluid. Gout is said to favour the formation of stone.

Symptoms.—When a stone is present in the kidney the patient may, if it is smooth-surfaced, have no pain whatever, or may experience only a dull ache in the loin after exertion or on being shaken up in a bus or other vehicle. When a stone is being passed from the kidney to the bladder acute pain in the loin and abdomen, passing into the groin and fork or even to the heel, may be experienced; there is frequent desire to pass water and the urine may be discoloured by blood of a dark brown hue. Stone in the bladder is accompanied by much pain on micturition, which is frequent and urgent, and the blood in the water is of a bright red colour.

Treatment.—Drink plenty of water, weak tea, mineral waters, barley-water, home-made lemonade: take plenty of exercise: cut down the meat intake, and live chiefly on fish, eggs, vegetables and milk puddings. If symptoms are troublesome and do not improve clinch the diagnosis by having an X-ray photograph taken, and discuss the question of operation with a competent surgeon.

Stricture

By this term is meant the constriction of any of the natural passages of the body, such as the gullet, the pylorus, the rectum, but it is most commonly used in connexion with the urethra. It may be (a) functional or spasmodic or (b) organic.

The spasmodic form is due to a spasm of the muscles closing the urethra, caused by a sensitiveness of some part of the urethra, generally near the neck of the bladder. It is easily relieved by hot fomentations or a hot hip bath.

The organic form is caused by a contraction of the mucous

membrane from previous inflammations, causing narrowing and constriction by the formation of scar tissue. The commonest cause of this inflammation is neglected or repeated gonorrhœa, especially if badly treated by incompetent people. The stricture most usually occurs within 2 inches of the meatus, but those that give rise to most trouble are situated in the membranous urethra 5 inches or so from the meatus.

Symptoms.—A diminished stream of urine, sometimes only dribbling away. It is sometimes accompanied by pain. The obstruction may become complete, so that the patient experiences much pain and distress, with increasing desire to pass water. Unless catheterized the bladder distends until it ruptures, with fatal results.

Treatment of the stricture is mechanical, and consists of dilatation with graduated bougies, starting with the smallest size that will pass the stricture and gradually increasing the size until the urethra is dilated to rather more than its normal size. This treatment requires a good deal of skill and should only be entrusted to competent hands. Injury by injudicious manipulation may do much more to produce a stricture than the original inflammation. Palliative measures when the obstruction is not complete consist of means to increase the flow of urine, render it less irritating and relieve any spasm that may accompany the real stricture.

Put the patient in hot baths frequently, give alkalies and tincture of hyoscyamus; forbid alcohol, keep the diet light and unirritating and keep the bowels well open with saline aperients.

Strychnine Poisoning

(See Poisons.)

Suffocation

If the person is found hanging, he should be at once cut down and artificial respiration employed, as in drowning. If the suffocation results from articles of food blocking up the throat, the treatment recommended in choking must be applied. Should the suffocation be the result of breathing coal-gas or sewer-gas, or by being in a room in which charcoal has been burnt, get the patient into the fresh air as speedily as possible, dash cold water in the face, and then perform artificial respiration.

Sulphonamides (M & B)

This range of drugs, discovered in 1935, are now widely used in many acute fevers, e.g. pneumonia and meningitis, but they are only to be used under doctor's orders. Patient must drink plenty while taking them.

Sunstroke

The disorders produced by exposure to excessive heat have been classified under two heads, heat exhaustion and heat apoplexy. Heat-exhaustion is a common form in temperate latitudes, and its approach is indicated by gradually developed premonitory symptoms of dizziness, headache, drowsiness, nausea, and faintness, with coldness, clamminess, and pallor of the surface, pupils normal or dilated, frequent, feeble, irregular pulse, sighing respiration, and later complete syncope, terminating fatally unless active medical attention is given, in which case recovery is the rule. The loss of consciousness is never so complete as in heat-stroke proper. In midsummer it is not unusual to see labourers, drivers, and others who have fallen in the streets and who, if judiciously placed in the shade near by and treated on the spot, are soon able to return to their homes.

Heat-apoplexy has the characteristics of ordinary apoplectic seizures, for which it may be mistaken: flushed face, injected adnatæ, full, rapid pulse, visibly bounding carotid and temporal arteries, and stertorous respiration. Often there is no premonition, or merely lack of sweating, dizziness, flashes of light or red and yellow or clouds before the eyes. The victim falls unconscious, and death, if it be not sudden, occurs after a brief period of convulsions, coma, or asphyxia, unless averted by treatment, or should this be ineffectual. Treatment should be immediate. Place the patient in the shade and dash cold water over the face and head, apply ice or ice cloths or cold water to the head, and give a teaspoonful of spirit of sal volatile in water. Tea or coffee may be given afterwards.

Sunstroke is commonly preventable by proper precaution, the wearing of suitable clothing. Treatment should be immediate. Gihon points out that cases of heat-stroke proper are greatly aggravated by neglect of immediate treatment and by being hastily put into an ambulance and jolted off to a hospital, when a few buckets of cold water, ice to the head,

would have contributed to recovery. Excess of heat being the morbid agent, the manifest indication is to reduce that abnormal heat as quickly as possible, and the easiest and most effectual way of accomplishing this is by the application of cold water, which not only directly abstracts heat but by absorption furnishes material for refrigeration through evaporation.

Superfluous Hairs

These can only be permanently removed by the process of electrolysis. This must be applied by a skilled expert.

Swallowing a Stone or Coin

If symptoms of choking follow, act as directed in the paragraph "Choking." If a stone has been swallowed or a small coin, and if it has apparently passed into the stomach, a quantity of porridge or hasty pudding may be taken, to be followed 2 hours later by a dose of castor-oil. A doctor should be consulted, and if the article should have stuck in the gullet, he may be able to recover it by means of a surgical instrument.

✓ Syncope

Syncope is a term indicating the failure of the heart, leading to a loss of consciousness, and sometimes to death. Among the principal causes are lack of blood in the cavities of the heart, following on severe hæmorrhage or sudden removal of pressure from the great blood-vessels, as has occurred in certain operations; insufficient supply of blood to the heart walls; or a supply of impure blood, as may occur in certain fevers, or as a consequence of breathing the impure air of a crowded room, and various diseases of the muscles and valves of the heart. Syncope may occur quite suddenly and cause instantaneous death, or it may be much milder in its symptoms and gradual in its onset. When it comes on gradually there is a sensation of faintness and giddiness with more or less nausea, or actual vomiting. The body usually becomes covered with cold clammy perspiration. The breathing becomes hurried and gasping; the mind becomes confused, and ultimately complete unconsciousness results. There is great pallor, and the pulse becomes almost imperceptible. The breathing is slow and irregular. The treatment consists

in at once laying the patient flat on the floor or on a bed, with the head low. All clothing about the neck and chest should be loosened, fresh air should be freely admitted. The nostrils may be stimulated by the vapour of ammonia and, if the patient is sufficiently conscious to swallow, 1 or 2 tablespoonfuls of brandy may with advantage be given him through the mouth.

Tape Worm

Treatment.— $1\frac{1}{2}$ drachms of oil of male fern, to be given in milk early in the morning, on an empty stomach, to be followed 2 hours later by a large dose of castor-oil. Repeat this for 3 days. The male fern is better still taken in the form of small capsules.

Tartaric Acid Poisoning

(See Poisons.)

✓ Teeth in Relation to Health

The Care of the Teeth.—Of no portion of the human frame can it be said more truly than of the teeth that, "As you sow, so shall you reap." It is a hard matter to convince those in robust health that vitiated secretions, or habits of neglect and carelessness entail the decay of their teeth; while the crippled state of the teeth in its turn leads to a general enfeeblement of health.

The means by which cleanliness can be secured to the mouth is by brushing with a brush of suitable hardness not only the fronts, but the backs of the teeth, and inside and across the grinding surfaces of the molars, at least twice a day, using some good tooth-paste or dentifrice once every day.

The frequent passing of a thread of floss silk between the teeth will clear away many particles that the brush cannot reach, while a mouth-wash and gargle of listerine is both agreeable and beneficial for its antiseptic properties. Simply brushing the teeth without using a dentifrice will not prevent them becoming discoloured. A tooth-powder for a healthy mouth should be merely a mechanical agent possessing a hardness sufficient for the removal of slight accumulation of food mucus, etc., without liability to injure the enamel;

it should be slightly antiseptic and free from acidity and from rough and gritty ingredients such as powdered pumice-stone, charcoal, etc. Most of the brushes on the market are too large and too stiff.

Excellent brushes are sold in pairs—one brush for the inside and another for the outside of the teeth.

Much harm is frequently done to teeth by too vigorous brushing with dentifrices containing pumice-powder, and cases are occasionally met with in practice where the enamel is worn quite through, and the dentine exposed. Care is necessary in brushing the teeth to cleanse them all over rather than in the expenditure of muscular force on the front of the mouth alone. The upper teeth should be brushed downward, and the lower upward, as well as from side to side. The articulating faces of the teeth should be brushed with the same care as other surfaces. The best time to use a dentifrice is before retiring at night.

During the waking hours the various movements of the tongue and muscles of the mouth in speech and otherwise, the constant salivary secretion and the mastication of food, all tend to prevent the chemical changes which during sleep take place without hindrance. Lime-water forms an excellent wash for weak teeth showing a tendency to decay, especially in young persons and where the saliva has an acid reaction. Teeth that become tender to the touch round the necks close to the gum are rendered less sensitive by the daily use of a lime-water mouth-wash. Its peculiar value consists in the fact that it is alkaline and neutralizes the effects of acids. Food may contain or become acid, or the saliva may be acid, a condition that frequently exists where the patient is debilitated.

A good mouth-wash for spongy and bleeding gums is made by preparing a saturated solution of tannin in eau-de-Cologne, using about $\frac{1}{2}$ a teaspoonful to a wineglass of hot water.

Greater care of the teeth is necessary in sickness than in health, and irregular and crowded or weak teeth need much more attention to keep them in a wholesome state than those more regularly arranged and better organized.

The Care of the Temporary Teeth.—The temporary teeth are liable to the same causes of decay as the permanent ones, and equal care should be taken of them.

It is not the design of Nature that the first set shall be

lost by the destruction of the crowns, but by the destruction of the roots.

It is intended that simultaneously with the advance of the permanent tooth, the absorption of the root of the temporary tooth should occur, so that when the temporary tooth is thus loosened, the permanent one is generally close at hand to occupy its place. Thus no loss of space results and the second teeth will be more regular, which they are not likely to be if the milk teeth are extracted too soon.

Irregularly placed teeth are unusually liable to decay, both from the great difficulty of properly cleaning them, and from the fact that when such portions of enamel touch each other, as are not intended to be in contact, injury results. How then can the temporary teeth be preserved? The teeth should be cleaned twice daily by the parent when the child is too young to do it, and by either when the child is old enough.

The teeth should be frequently examined by the dentist, and if decay or such imperfections in the enamel as would lead to decay should be found, the places should be filled.

Toothache and Neuralgia.—When from exposure by decay or other causes the pulp becomes irritated and inflamed, the pain known as toothache arises; but during the progress of decay, even before the exposure of the pulp has been effected, pain of more or less severity may be experienced, frequently diffused over the sides and top of the head, and not apparently referable to the teeth at all.

These pains are often ascribed to neuralgia, and quinine and other tonics may be taken in considerable quantities, without effect. A careful examination of the mouth would frequently reveal several unsuspected cavities, the treatment of which would give immediate relief from suffering.

Neuralgic pains of dental origin are due to reflected or sympathetic action. The nervous connexions of the teeth themselves consist of three main branches which ramify to almost every part of the face, mouth and head, and irritation to one branch often gives rise to pain at a portion of the nerve very remote from the source of injury. Thus the irritation caused by a decayed tooth in the lower jaw may be reflected in such a manner that the pain is experienced in the upper jaw, and vice versa.

Oral Sepsis, or Septic Mouth.—Our general health depends largely on the condition of the mouth, and many diseases,

including those of the most infectious and dangerous character, are due directly to a septic or unclean mouth. Septic mouth is caused primarily by neglect; even those who clean their teeth regularly often do it so inefficiently that the bulk of its microbic population remains undisturbed in recesses around and between the teeth and in the folds of the mucous membrane of the mouth.

Decayed teeth, acute and chronic abscesses, exposed and diseased pulps, dirty dental plates, badly designed crowns or bridges, inflamed gums, pyorrhœa and tartar are all active factors in producing a septic mouth. Micro-organisms in the mouth cause decay of the teeth, inflamed gums and pyorrhœa. In the throat and lungs they produce common colds, tonsillitis, pharyngitis, pneumonia and tuberculosis, in the stomach gastritis and gastric ulcers, and in the intestines appendicitis. They pass from the mouth through the connecting passages to the eyes and nose and ears, causing disease in these organs. They may enter the blood-stream and swarm in millions, attacking the cartilages of the joints, causing rheumatism; they poison the nerves, producing headaches, neuralgia and nervous symptoms.

Dental Decay.—Dental caries or decay of the teeth is a septic disease caused by the acid-producing micro-organisms of the mouth. These germs exist in every mouth, but where the teeth are strong and the enamel well developed the teeth are to a considerable extent immune from attack. To excite decay it is necessary for the micro-organisms to remain for some considerable time in contact with the tooth substance. This is possible between the teeth and in pits and crevices in the enamel where they are little disturbed by mastication or even by cleaning as usually performed. In such positions which retain small particles of food, fermentation, started by these micro-organisms, produces an acid which attacks the tooth substance, dissolving the lime salts, and leaving a thin layer of the animal matrix unprotected. They then invade this layer, and producing more acid penetrate deeper into the teeth. The germs have then established their hold and extend their activity towards the centre of the tooth following the dental tubuli, microscopic tubes in the dentine, which they penetrate, dissolving the lime from the surrounding dentine and enlarging the tubuli. Later the tubuli coalesce, forming cavities which are filled with germs. This process goes on

until the dental pulp popularly known as the nerve is reached. The germs then attack the pulp which becomes inflamed and painful (toothache) and as the blood circulates through the pulp a passage is opened by which the germs may then enter into the blood-stream, producing diseased conditions in parts remote from the real cause of the trouble. The bacillus tuberculosis, the germ of consumption, especially is thought to enter the system through the exposed pulps in decayed teeth. The pulp is ultimately poisoned by the overwhelming multiplication of the germs (bacteria); the tooth is then said to be "dead." It becomes very offensive owing to the putrefaction of the pulp, but it ceases to ache.

After a period of quietness the micro-organisms from the dead pulp find their way through the foramen or orifice by which the nerve and blood supply entered the tooth and infect the socket. The tooth becomes tender, the swollen membrane lining the socket (Periodontium) lifts the tooth so that it comes in contact before the others, causing intense pain in closing the jaws. The face becomes swollen and frequently the temperature rises, an abscess forms which after a period of 5 to 10 days discharges its pus and subsides. It may discharge externally through the face, causing disfiguring wounds, but it generally breaks inside the mouth. The tooth may then cause no pain, but a small orifice remains, generally surrounded by a slight elevation in the surface of the gum (gum-boil). From this orifice a constant discharge of pus takes place. A condition known as chronic abscess supervenes. This condition is dangerous to the general health as the germs have invaded the living tissues beneath the tooth and they are far more likely to infect the blood than when the pulp alone is infected.

Pyorrhœa Alveolaris.—*Chronic General Periodontitis.*—*Pyorrhœa alveolaris*, also known as Rigg's disease or chronic general periodontitis, is a disease of the gums, teeth, and jaw-bone, it causes the loss of the teeth through the destruction of their sockets. In its more advanced stage it is often attended with a profuse discharge of a very highly septic and poisonous matter.

The earliest symptom is a general thickening and sponginess of the gums, which show a tendency to bleed when the teeth are cleaned. An inflamed line can often be observed at the gum margin, and the gum appears suffused with blood.

In other cases where the teeth are carefully cleaned, the gum still retains a healthy coral pink colour.

As the disease progresses the gums recede, the delicate festooning round and between the teeth is lost, and a sulcus or pocket is formed round the necks of the affected teeth. This sulcus is occupied by the germs that cause the disease, and from it there is a constant discharge of highly poisonous pus. The pockets reach down to the edge of the bone forming the sockets, which is continually wasting away and being discharged in microscopic fragments along with the matter until the sockets become too shallow to hold the teeth, which loosen and ultimately fall out, or are extracted. A small deposit of green tartar is usually found around the neck of the tooth, but this is often absent.

Pyorrhœa generally starts in the lower front teeth, but occasionally the molars become infected first. Patients often complain of an unpleasant taste in the mouth, especially on waking in the morning, occasionally the complaint is, "It tastes as if I have been sucking pennies." The breath is rendered offensive and neuralgic pains are sometimes experienced, but seldom severe enough to cause the patient to take advice. The teeth may become extremely tender, making mastication difficult, but severe toothache is rarely caused by pyorrhœa.

The application of X-rays to dentistry has shown that an examination of the mouth is unreliable as regards the extent the disease has progressed, as the sockets of the teeth may be deeply infected and wasted and the gums show little evidence either of inflammation or recession.

The immense importance of the treatment of pyorrhœa becomes evident when we consider its proved potency as a cause of illness. The pus from the tooth sockets is an intense poison, and is continually being absorbed into the circulation, partly from the gum surface, partly from the stomach into which it is constantly being carried by the food and saliva. The poison therefore through the blood reaches every part of the body.

The systematic disturbances causing anæmia, headache, indigestion, nose, throat, eye and ear trouble, gastric ulcer, insomnia, neuritis, rheumatisms, arthritis, nervous breakdown, melancholia.

The treatment of pyorrhœa alveolaris is to a great extent

palliative and directed to the alleviation of the most distressing symptoms rather than the cure of the disease. Thus astringent mouth-washes such as tannin and chlorate of potash will reduce the sponginess of the gums, while the use of carbolic acid (1 drachm to 1 pint of water), or of peroxide of hydrogen or other disinfectants, will do much to remove the unpleasantness from the breath. The progress of the disease can be checked by treating the gum round the necks of the teeth with iodine or other agents. The removal of the tartar is a necessary preliminary, and the utmost cleanliness must be observed, the teeth being brushed frequently with a soft brush, and the spaces between the teeth cleaned with floss silk. Any relaxation in the course of treatment is met with fresh onslaught of the disease. When the general health breaks down and the system shows signs of septic invasion it is folly to continue palliative pyorrhœa treatment. The only rational course is to extract every affected tooth without further delay.

Teething

The period of teething is one which is looked upon by many mothers with dread. Owing to the greater irritability of the system usually found to exist at that time, children are more susceptible to certain diseases; and in order that everything may be done to guard against these, it is well that the mother should be familiar with the usual time of appearance of the teeth, and with a few hints that may be of service in maintaining the health of the child during this period.

The first, or temporary, teeth, 20 in all, generally begin to make their appearance between the fifth and eighth months in the following order: the 2 central front teeth of the lower jaw, called central incisors; the corresponding teeth in the upper jaw; 2 lower and 2 upper lateral incisors; the 4 first molars; the 4 canines (the 2 upper of which are popularly called *eye-teeth*); and, lastly, the 4 second molars.

The symptoms of troublesome teething are most perceptible to the mother: the child sucks feebly, and its gums are hot, inflamed and swollen. In this case, relief is yielded by rubbing the gums with the finger or a teething ring from time to time. Selfish and thoughtless nurses, and mothers too sometimes, give cordials and sleeping-draughts, the effects of which are too well known.

During the cutting of the temporary teeth, the infant's head should be kept cool, and its feet and hands warm. The body clothing should be light but warm. The apartments occupied by the child should be kept rather cool at this time. If the bowels are confined, the diet should be altered, and a little calcinated magnesia given in milk. For care of the teeth, *see* p. 211.

Weak and improper food is often the cause of tardy teething. Children should be washed daily, and always kept sweet and clean.

Tetanus

(*See* Lock-jaw.)

Thorn Apple Poisoning

(*See* Poisons—*Belladonna*.)

Thrush

This is a common affection in infants. It may be seen in the mouth as small white specks on the lining membrane. It is often due to malnutrition and bad feeding, especially to dirty bottles or teats, and sour milk. The swallowing of food becomes difficult, there is thirst, and the water is scanty and high-coloured.

Treatment.—If the infant is bottle-fed, see that everything is scrupulously clean. If breast-fed, a nipple shield should be used, otherwise the nipple will become irritated. Give a little lime-water in the milk, in the proportion of 1 to 4 parts. Paint the mouth frequently with glycerine and borax, or honey and borax, using a feather or small camel-hair brush; or dissolve some powdered borax in water (4 grains borax to 1 oz. of water), and apply in the same way. Should this fail, wipe the mouth out thoroughly with a soft wet rag, and then rub some flowers of sulphur on the white patches with the finger. Great attention must be paid to the diet, and any errors corrected. If the stomach is disordered, benefit may be derived by giving the child one of the following powders twice a day: grey powder, 6 grains; bicarbonate of soda, 18 grains; powdered rhubarb, 8 grains. Mix and divide into 6 powders; 1 twice a day to a child a year old. Change of air when the child is getting better will often work wonders.

Tic Douloureux

Facial neuralgia, or tic, is, perhaps, the most common form of neuralgia and, as the nerve attacked is made up of three branches, any one of these may be affected.

One of these branches goes to the eye and a part of it passes out from the orbit and turns up over the forehead. This is often the seat of pain and, when this is so, the neuralgia generally affects one side of the forehead, extending upwards towards the hair. The next branch of this nerve comes below the eye and extends over the cheek and on to the side of the nose. This, too, may be and very often is affected, especially when the teeth on the corresponding side are decayed. The third branch of the nerve extends along the lower jaw and is not so often the seat of pure neuralgic pain as the others. The branch on the forehead may be affected without any definite cause being ascertainable. But in the other branches a cause is much more likely to be found in some decayed teeth, or some condition of the jaw which gives rise to irritation, and though such maladies are included under the term neuralgia, they are rather instances of pain produced in one spot appreciated by the sensory centres in another.

For general treatment, etc., see Neuralgia, p. 159; also Teeth, Care of, p. 212.

Tinned Foods, Poisoning from

(See Poisons—*Ptomaine*.)

Tired Eyes

Aching of the eyes shows overstrain of the ocular muscles, and is frequently accompanied by the most persistent and intractable form of headache. Some slight defect in the vision will be discovered, correction of which by suitable glasses will relieve the symptoms.

Toadstools Poisoning

(See Poisons—*Fungi*.)

Tobacco Poisoning

(See Poisons—*Henbane*.)

Tonsillitis

(See Quinsy.)

Tonsils, Enlarged

Enlargement of the tonsils is most frequent in children and young adults and rarely occurs after the thirtieth year. The symptoms of enlargement are sometimes noticed soon after birth. The enlargement varies from the merest increase of volume to a size as large as walnuts, the two tonsils touching each other and pushing the palate forwards. They are likewise apt to be enlarged upwards and downwards. The condition is readily recognized on inspection of the throat through the open mouth and the extent may be determined by following the outline of the gland beyond sight with the finger. The tonsils are often diseased and adherent to the folds of the palate.

Symptoms.—These are impairment of articulation, attended in some cases with impairment of respiration and swallowing. The mouth is often kept habitually open; the throat is dry from rapid evaporation of its moisture; there is snoring in sleep and the voice has a nasal twang. The necessity sometimes existing for bending the head forwards, or towards the side least affected, in order to breathe effectually, may give rise even to permanent deformity of the chest walls. The impairment of respiration leads to insufficient oxygenation of the blood and eventually ill-health. In extreme cases, suffocation is at times imminent and death may occur rather suddenly from this cause.

Treatment.—This is both constitutional and local. In cases of moderate severity and recent standing constitutional treatment alone may be adequate to a cure. In most cases local treatment is necessary: in very many it becomes absolutely requisite to remove the diseased glands by surgical interference—a perfectly safe, simple and advisable procedure. It is always advisable to remove existing adenoids at the same time.

Toothache

Poppy-head fomentations should be applied to the face, externally. A small pledget of cotton-wool, soaked in oil of cloves, placed in the cavity of an aching tooth will give speedy relief. (See also p. 212.)

Tuberculosis

(See Consumption.)

Turpentine Poisoning

(See Poisons.)

Typhoid Fever

(See Enteric Fever.)

Typhus Fever

Typhus is a highly infectious fever which occurs in epidemic form, generally in periods of famine and destitution. This is chiefly because of the prevalence of body lice at those times. It is what is called a "lice-borne" disease (i.e. a disease in which the specific micro-organism is disseminated by means of lice).

Causes.—Typhus is met with in both sexes and at all ages, though it is rare in young children. Famine, bad food, dirt and overcrowding are all more or less important factors in its production.

Symptoms—The onset of typhus is marked by a severe headache, loss of appetite, and languor, and aching of the limbs. For 3 or 4 days the patient gets worse, is unable to get about, and feels chilly and prostrate; he is then worse at nights and restless; the skin is hot, the tongue coated; there is thirst and sometimes vomiting. The patient then lies prostrate on his back, with a dull and weary, if not stupid, look; the eyes are suffused and watery, and a dusky flush overspreads the face. As the disease progresses the eyes are half shut, and the mouth open; the tongue dry, brown or black, and marked with cracks. The temperature rises from the first, and reaches 103° or 104° Fahr. by the middle of the first week; the highest temperature reached in the fever is seldom less than 105° , although it may be higher. The fever may slightly abate, in favourable cases, about the ninth or tenth day; no marked fall, however, takes place until the end of the second week, and generally on the fourteenth day, when defervescence usually takes place suddenly. The other symptoms then quickly disappear and convalescence is rapid, the normal temperature being reached in 24 hours. A rash appears in nearly every case. Sometimes it looks like a general mottling just beneath the skin, or distinct spots may appear of small size and purplish colour. The rash appears on the fourth or fifth day, rarely later; it comes on the back of the wrists first, in the armpits, and over the

epigastrium ; then it more or less covers the trunk. It seldom comes on the face and neck.

Treatment.—The patient should be placed in a well-ventilated room, and the windows should be kept open. The diet and treatment is the same as for any other infectious fever. When the temperature has fallen, fish and poultry may be added to the diet sheet.

Fever and delirium should be treated by cold sponging. Isolation should be continued for 4 weeks from the commencement of the attack.

In attendance on, or in nursing, a case of typhus it is most important for the doctor and nurses to wear overalls, and to avoid infecting themselves with lice.

Ulcers

When the surface of the skin becomes inflamed at any point at a certain stage, instead of healing taking place a sore may form and extend with suppuration, so that we have a condition closely resembling an abscess which has been cut in two. Three kinds of sores are usually included under the head of ulcers ; one of these consists of various kinds of tumours, especially those of a cancerous nature, which have affected the skin and led to the breaking-down of its surface. Another group is composed of ulcers resulting from the activity of the germ of a particular disease, such as tuberculosis. These are known as chronic infective ulcers. The third group of chronic non-infective ulcers includes those which are not due to any specific germ but are caused by local disturbance, most commonly of the circulation. It is with the last group only that we are concerned at present.

Causes of Simple Ulcers.—Anything which interferes either with the supply of arterial blood or the return of venous blood from any part of the body affected with a sore is likely to cause that sore to break down and ulcerate. Hence the frequency of ulcers of the leg in connexion with varicose veins, in which the veins are dilated and the valves incompetent so that the blood does not really flow away from the limb. A naturally weak condition of the tissues again, such as more commonly occurs in old people or people in an indifferent state of health, also provides suitable conditions for the formation of ulcers. Any form of irritation again, such as the rub of clothing or the application of strong irritating

lotions to a sore, is liable to lead to ulceration. Irritating discharges from a wound which are not allowed freely to escape act in much the same way. In connexion with certain diseases also, ulceration frequently occurs at various parts of the body. This is especially marked in the case of diabetes.

Varieties of Ulcer.—There are several classes of non-infective ulcer which are grouped according to their appearance and tendency. The following are the commoner of these classes. Simple ulcers are those which do not heal on account of pressure or local irritation, or absence of rest. These ulcers are nearly on a level with the surrounding skin, and they are most commonly situated in the lower half of the leg. When neglected, they spread with considerable rapidity and may become actively inflamed, forming what are known as inflamed ulcers. In these the surface of the sores become extremely red, as also does the surface of the skin around. Inflamed ulcers spread with great rapidity and fresh ulcers are apt to form in the neighbourhood of the original sore. There is usually great pain in connexion with this class of ulcer. Varicose ulcers are those which occur in connexion with varicose veins. These ulcers usually begin with a small abscess around an inflamed vein, with considerable eczematous inflammation of the surrounding skin. There is much irritation, and the abscess soon wears through the skin, forming an ulcer which rapidly extends. Sometimes a neglected varicose ulcer develops into what is known as a callous ulcer, in which the tissues round the sore become thicker and thicker and very hard. As a consequence of this thickening, the base of the ulcer is depressed very much below the surface of the skin, and the surface of the sore is pale and somewhat insensitive. Other classes are diabetic ulcers, hæmorrhagic ulcers and perforating ulcers of the foot.

Treatment of Ulcers.—The first thing in the treatment of all ulcers is complete rest with elevation of the part affected above the general level of the body. Without this rest all other treatment is useless. The second point in treatment is to remove all forms of irritation from the surface of the ulcer. Mild antiseptic lotions should be employed several times in the course of the day, such solutions as saturated boracic acid solution or corrosive sublimate solution of a strength 1 in 4,000 being suitable for this purpose. Where the surface of the ulcer is very foul it is well to apply boracic

fomentations for a day or two and afterwards apply cyanide gauze soaked in 1 in 2,000 sublimate solution before commencing with the weak antiseptic solutions mentioned. The sore having been bathed with lotion it should be dressed with boracic ointment, diluted with vaseline to about a quarter of its strength, and the part firmly bandaged. In bad cases other measures, such as skin grafting, are needed, but these fall naturally within the province of the surgeon.

Urticaria

(See Nettle-rash.)

Vaccination

(See p. 38.)

Varicose Veins

These are prominent, thickened and tortuous veins in the leg and thigh. The inner part of the leg, just above the ankle, is often blue and congested, and here ulceration of a very obstinate and painful kind may form, due to deficient circulation through the veins. A vein may get so distended that it may burst through the skin, in which case dangerous bleeding may result. (See Bleeding.)

Treatment.—To prevent the veins getting worse, and to relieve the aching, elastic stockings or bandages should be worn. In bad cases the veins must be removed by operation.

Variola

(See Small-Pox.)

Vitamines

(See p. 23.)

Vomiting

Vomiting means the ejection of the contents of the stomach upwards instead of into the bowel. The act is a complex one and seems due to two factors, namely, contraction of the walls of the stomach itself and contraction of the abdominal walls and diaphragm, the contents of the abdomen thereby in their turn pressing on the stomach itself.

Causes.—The causes of vomiting are very various. Irritation of the stomach itself, whatever be its cause, will give

rise to ejection of its contents ; but vomiting occurs in many other maladies. Vomiting is a very distressing affection, and when it proves obstinate or severe, calls for medical aid. To arrest vomiting, ice is a capital remedy. Bismuth also is good. In all cases the quantity of the remedy used should be small. Bulky preparations will usually be rejected.

Warts

Apply concentrated acetic acid daily, when they will soon wither away. Collodion corn paint will also often cure them. A sulphur lozenge taken 3 times a day is useful.

Wasp Stings

(See Stings.)

Weak-Minded Children

The treatment of mentally deficient children presents one of the most difficult problems which doctors or parents are ever called upon to face. Yet the results which can be attained by perseverance and common sense are so satisfactory that no trouble should be spared. The mentally deficient child has to be taught things which another child picks up for itself. Notice things which the child seems to do less well than other children, and teach him how to do these better one at a time. Anything that he seems to do of his own accord should be worked upon, possibly modified, but rarely discouraged. The great thing that you want to encourage in a child is interest, and he should rather be at first helped to do those things which he finds rather difficult than those things which are altogether beyond him. Success will encourage, failure will discourage him. Do everything to make the child respect himself and take a pride in himself and his acts. Keep him pleasantly occupied. Avoid as far as may be possible coerciveness. If the child is cowed his will will be still more paralysed. Pampering and humouring, however, require to be carefully limited. Do everything possible to improve his bodily health, keeping him as much as possible in the open air, and letting his diet be liberal but light and nourishing.

Wens

Wens on the scalp and face are greatly distended sebaceous glands, forming little sacs containing more or less cheesy

matter. Sometimes these have an opening from which this may be squeezed. The treatment otherwise is by excision.

White Leg

is a form of inflammation of the large vein of the leg, sometimes occurring in nursing women. The left leg is more commonly affected. It is greatly swollen, of a dull white colour, the skin stretched and shiny, and feels heavy, stiff and responds painfully to movement. Hot fomentations and rest for a lengthened period are the main treatment. Friction with vaseline tends to reduce the swelling and pain and, when the patient is strong enough to get about, she should wear a firm, well-applied bandage.

Whitlow

Whitlow is an inflammation at the top of the finger, usually involving the nail. It is due to a microbe having obtained entrance under the skin. It is characterized by throbbing pain in the finger, often extending up the arm. The finger-end is swollen, red, shiny, and very tender to the touch. If it progresses, matter is formed, and no relief is obtained till the matter is evacuated either by a small incision or by waiting till the abscess bursts, a much more tedious proceeding.

Treatment.—Bathe the finger in a bath of hot antiseptic for $\frac{1}{2}$ hour 2 to 3 times daily. (Carbolic acid, 1 teaspoonful to the pint of water. Sanitas, 1 teaspoonful to the pint of water.) A hot antiseptic fomentation should be kept on the finger, and the hand supported in a sling. After the pus has been let out by a doctor, the same treatment is pursued till all matter ceases to come away, when the finger may be dressed dry and allowed to heal.

Whooping-Cough

This is an infectious disease of great frequency in childhood, and a large proportion of infant mortality is due to it.

Symptoms.—The earliest symptom is a common cold or catarrh, accompanied by a cough, often ending in vomiting; there is also a slight amount of fever and restlessness. The cough in a few days becomes most troublesome; in a week or 10 days, but often later, the child will begin to have the characteristic whoop; the cough comes on in paroxysms, more frequently by night than by day; each paroxysm begins

with a deep and loud inspiration followed by a succession of short and sharp expirations, again followed by a deep inspiration, accompanied by a whoop : this may go on several times, and last 1 or 2 minutes, according to the severity of the case. Just before each attack comes on, the child clings to its nurse or mother. During the paroxysm it sits in an erect position, the face is flushed, the veins in the head and face prominent, the eyes suffused and watery, and generally there is some glairy fluid expelled from the mouth, or vomiting may come on. After the paroxysm the child will rest for a time, and appear pretty well until the next attack. These symptoms usually last for 3 or 4 weeks, and then the cough abates in severity and frequency, and finally ceases altogether. If it comes on during the winter the cough may last 6 or 7 weeks, unless extra care is taken. In most cases there is some bronchitis attending this complaint, shown by the hurried breathing and rise of temperature, and by the rattling noises over the chest.

Treatment.—In all cases it is best for the child to be kept in the house as soon as the malady has declared itself ; in a very mild case it need not be kept in bed, but it should be in a room of warm and even temperature, and protected from draught ; it can then be allowed to play about as it likes. If there is any lung affection, it must be put to bed and treated according to the requirements of the case. Other children must not be allowed to come near it, unless they have had an attack previously. The child must be fed in the usual way, but solid food should be given sparingly, and the stomach must be not overloaded, as vomiting is often a symptom. Steel wine is very valuable in cases of whooping-cough, and more especially when there is no fever and during convalescence ; it may also stop the diarrhoea, which is now and then present. Numberless remedies have been tried, but as many of them are powerful and require careful watching, they ought only to be given under medical direction. Some sweet mucilaginous fluid may be given, such as the mucilage of gum acacia mixed with glycerine, in the proportion of 1 teaspoonful of the latter to 1 tablespoonful of the former ; a teaspoonful of this being given to a child 3 or 4 years old 3 or 4 times a day. A cresolene lamp has often a good effect, or a little pure carbolic acid may be put in a saucer over a night-light. Warm clothing should be worn ; and during convalescence a nourish-

ing diet, moderate exercise in the open air when fine, a tepid bath in the morning, and a tonic, such as steel wine or cod-liver oil, are advisable. A visit to the seaside, 7 weeks from the onset, will frequently complete a cure. Excellent results in shortening the duration and diminishing the severity of the attacks have been obtained by the injection of vaccine. (*See also Embrocations and Liniments.*)

Worms

Those principally affecting children are of two kinds—the small threadworms, usually seen in large numbers, and causing great irritation, and the larger round worm, generally seen singly, about the same size and shape as the earthworm.

Treatment.—For threadworms the treatment is the injection per rectum of half a pint of cold water with a teaspoonful of common salt in it for 3 mornings running. Clear the bowel with an aperient before starting the treatment and again after treatment is over. Rub an antiseptic ointment into the skin round the anus so that re-infection does not take place.

For round worms a purgative or a dose of rhubarb or aloes will generally suffice. When the worm is present, the patient has generally colicky pains in the stomach, fetid breath, with nausea, or vomiting, and bad appetite. Santonin is, perhaps, the medicine most certain to expel this worm; it may be combined with a purgative. (*See also Tape Worms.*)

Wounds

The simplest are those in which the tissues are clean cut through, and where the edges, when brought together, fit accurately the one to the other. Remove all dust or dirt from the region of the wound by thorough washing with pure soap and water, and bring the edges carefully together by means of a bandage or strips of plaster. Keep at rest for a few days.

Contused or Lacerated Wounds should be treated by cleansing the parts with disinfectant or antiseptic and water, carbolic acid and water (1 teaspoonful of the acid to 8 or 10 oz. of water), or Condy's Fluid and water, then place a piece of lint or rag soaked in carbolic lotion (1 part in 20 of water) over the wound, and draw the edges as nearly as possible together. If it still contains gravel or dirt, boroglyceride fomentation (*see Fomentations*) should be regularly applied when the bleeding has ceased.

Perforating Wounds are dangerous because of their depth, and the greater possibility of their containing dirt. The best treatment is to foment them from the first with hot boroglyceride fomentations, and by means of plugging the top with antiseptic gauze ensure that they heal from the bottom.

Gun-shot Wounds.—If a stimulant is necessary, give a teaspoonful of spirit of sal volatile in water. Remove pieces of clothing, wadding, or bits of paper that may be found in the wound, then bathe it with carbolic acid and water, or some other disinfectant and water, and foment as in the case of *Perforating Wounds*.

Poisoned Wounds may result from a number of causes, such as stings of insects, snake-bites, the bites of rabid animals, etc. (*which see*).

Writer's Cramp

In connexion with various occupations which involve the continuous and excessive use of certain muscles employed in a particular way, an irregular involuntary spasm, or cramp, may occur. This condition is sometimes found among milkmaids, piano players, cigarette rollers and others, but the commonest form is that known as "Writer's Cramp" or "Scrivener's Palsy."

The condition is not, as a rule, attended with pain, though the cramp is such as to prevent any use of the hand in writing.

The treatment consists in complete cessation from writing or work that causes the cramp; no other treatment is of the slightest use without this; even if the left hand be employed instead of the right, it usually becomes affected in turn. Massage is of great assistance, and in bad cases electricity may also be employed.

Wry-Neck

Wry-neck, or torticollis, is a spasm affecting the muscles of the neck, as a consequence of which the back of the head is turned towards the shoulder of one side, the face rotating to the other shoulder. The contraction may be continuous, or interrupted; in the latter, the contractions recur at frequent intervals, so that it is usually impossible to keep the head still for more than a few minutes together; the spasms in these cases cease during sleep. Some cases get well, but the majority persist, with temporary improvement, through life.

THE NURSE

CHAPTER V

Sick Nursing—The Sick-Room—Invalid's Food— Doctor's Orders—Convalescence

Sick Nursing

ALL women are likely, at some period of their lives, to be called on to perform the duties of a sick-nurse, and should prepare themselves as much as possible, by observation and reading, for the occasion when they may be required to fulfil the office. The main requirements are good temper, sympathy with sufferers (which most women possess), neat-handedness, quiet manners, love of order, and cleanliness. With these qualifications there will be very little to be wished for; the desire to relieve suffering will inspire a thousand little attentions and surmount the distaste which some of the work attending the sick-room is apt to create.

Where serious illness visits a household, however, and protracted nursing is likely to become necessary, a professional nurse, who has been trained to her duties, will probably be engaged. The advantages of employing such a nurse in cases of serious illness are many. The patient receives every care and attention from one who, by training and experience, has learnt of what attentions such a patient stands most in need. The doctor is helped by having at each visit an accurate report of the patient's condition, the amount of sleep enjoyed, the alterations in the pulse or temperature, etc., since his last visit. The mistress of the house has time to devote to her household duties, to supervise the preparation of the invalid's food, to answer inquiries as to his progress, and by her companionship to relieve the monotony of the long weary time the invalid must necessarily experience.

Professional nurses need not only the qualifications already named. In addition to their training they should be physically

strong, have good health, nerves well under control, and be sure that nursing is a congenial occupation. What a friend or relative can do in the time of sickness for one she holds dear—the taxing of strength, the loss of sleep that she can make light of in such a case—all this is no proof that she is fitted for the post of a professional nurse. Her very passion for self-sacrifice is against this, for a nurse must do her work in a business-like way; she must not over-fatigue herself; should eat, drink and sleep well, and take regular exercise; while it should not cause her (as it does so often to the amateur) actual suffering to see pain inflicted when it is necessary that an operation should be performed. She should be able, like the surgeon, to think of the future good instead of the present suffering. To some nervous, highly-organized persons this would be impossible, and they are therefore unsuited for nursing as a career, although they may be the most devoted and patient attendants upon those they love.

But there are, of course, many cases in which the simple domestic nursing that almost every woman could undertake is all that is necessary: infantile complaints; accidents in a thousand forms; slight attacks of disease unattended with great danger; and the preliminary stages of, and convalescence from, more serious troubles—for all of which some knowledge of the general treatment of the sick is absolutely essential.

In the first stage of sickness, while doubt and perplexity hang over the household as to the nature of the sickness, the patient's room must be kept in a perfectly pure state, and arrangements made for proper attendance; for the first canon of nursing is to keep the air the patient breathes as pure as the external air, without chilling him. This can be done without any preparation which might alarm the patient; with proper windows, open fireplaces, and a supply of fuel, the room may be as fresh as it is outside and kept at a temperature suitable for the patient's state.

Arrangement of the Sick-Room

Windows must be opened from above, and not from below, and draughts avoided; cool air admitted below the patient's head chills the lower strata and the floor. The careful nurse will keep the door shut when the window is open; she will also take care that the patient is not placed between the door

and the open window, nor between the open fireplace and the window. If confined to bed, she will see that the bed is placed in a thoroughly ventilated part of the room, but out of the current of air which is produced by the momentary opening of doors, as well as out of the line of draught between the window and the open chimney, and that the temperature of the room is kept about 60° Fahr. (The "cool bedroom" temperature is 56°; the "warm bedroom," 64° Fahr.) Where it is necessary to admit air by the door, the windows should be closed; but there are few circumstances in which good air can be obtained through the sick-room door; on the contrary, the gases generated in the lower parts of the house are likely to be drawn through it into the invalid's room. When these precautions have been taken, and plain, nourishing diet, such as the patient desires, supplied to him, probably little more can be done, unless more serious symptoms present themselves; in which case medical advice will be sought.

Ventilation

Under no circumstances is ventilation of the sick-room so essential as in cases of febrile diseases, usually considered infectious, such as influenza, whooping-cough, small-pox and chicken-pox, scarlet fever, measles, and erysipelas; all these are considered communicable through the air, but there is little danger of infection being thus transmitted provided the room is kept thoroughly ventilated. But if this essential condition is neglected, the power of infection is greatly increased by being concentrated in the confined and impure air. A sheet wrung out in some disinfecting fluid and kept moistened with it, should be hung across the door or passage-way in all cases of infectious diseases.

The comfort of feverish patients, and indeed of most sick persons, is greatly increased by their being sponged with tepid water in which camphorated spirit is dropped in the proportion of 1 teaspoonful to 1 quart of water. The patient's face may be sponged every 2 hours in warm weather. An impression prevails that flowers poison the atmosphere of a sick room. The contrary is, however, the case. By absorbing the carbonic acid in the room and giving out oxygen, the air is purified by the plants. Lilies, and some other very odorous plants, may, however, give out smells unsuited to a sick-room, the atmosphere of which should always be fresh and natural.

Atmosphere of the Sick-Room

Under all circumstances this should be kept as fresh and sweet as the open air, while the temperature is kept up by artificial heat. Unless an electric radiator or a gas stove is used, care must be taken that the fire burns clear, and gives out no smoke into the room. See that the room is kept perfectly clean, and wiped over with a damp cloth every day, if boarded or laid with linoleum ; and, if a vacuum cleaner is not available, sprinkled with damp tea-leaves, or other aromatic leaves, and swept, if carpeted. All utensils must be emptied and cleaned immediately after use, and not once in four-and-twenty hours as is sometimes the case. A slop-pail should never enter a sick-room ; everything should be carried direct to the water-closet, emptied there, and brought up clean. Offensive odours are sometimes dealt with by sprinkling a little liquid chloride of lime on the floor. Fumigation by burning pastilles is also a common expedient for the purification of the sick-room. Both of these methods are useful, but *only* in the sense hinted at by the medical lecturer, who commenced his lecture thus : " Fumigations, gentlemen, are of essential importance ; they make so abominable a smell, that they compel you to open the windows, and admit fresh air." In this sense they are useful, but unless the cause of the offence is at once removed and fresh air admitted, fumigations and sprinklings are perhaps worse than ineffectual, as they conceal a source of danger.

Quietness

The sick-room should be perfectly quiet in all dangerous illnesses ; talking, and, above all, whispering, should not be allowed. Whispering is absolute cruelty to the patient ; he thinks his complaint the subject, and strains his ear painfully to catch the trend of the conversation. When it is necessary to speak, do so distinctly and clearly, so that the patient may hear what is said. It is not advisable to speak of him or his case, but avoid all appearance of mystery. Avoid rustling dresses and creaking shoes ; where the carpets are taken up the nurse should wear shoes of list, or some other noiseless material, and her dress should be of soft texture that does not rustle. Instead of a coal-scuttle a basket should be used, filled with convenient sized coals that can be put upon the fire with tongs, while a stick might take the place of a poker, and

thus save a great deal of noise when it is necessary to make up the fire.

If there are any superfluous articles of furniture, boxes, etc., in the room, take them away at once, and let the sick-room be as free as possible, so that its cleansing and sweeping will occupy less time. In the case of an infectious disease, move things only into an unused room where they can be disinfected later on.

An extra room adjoining the sick-room is invaluable to a good nurse, for here, if it be warm weather, she can, when necessary, have a fire, can air linen, wash up plates, glasses, etc., and do a hundred and one little duties she would otherwise be compelled to perform in the sick-room, thus saving much disturbance to the patient, and keeping the sick-room as it should be kept, free from noise or litter of any sort.

Never let the patient be waked out of his first sleep by noise, nor roused by anything like a surprise. Always sit in the apartment so that the patient has you in view, and does not need to turn to speak to you. Never keep a patient standing; never speak to one while he is moving. Never lean on the sick-bed, and prevent all noises overhead. Above all, be calm and decisive with the patient.

The Sick-Bed

A careful nurse, when a patient leaves his bed, will open the sheets wide, and throw them back, so as thoroughly to air the bed. She will avoid drying or airing anything damp in the sick-room. A small bed, or rather narrow one, is best for an invalid, for if he has to be moved it is far easier for the nurse to manage than on a wide one. A hair or wool mattress is better than a feather bed.

Changing Sheets

There are several ways of changing sheets, but perhaps no more simple and easy way than that of rolling up the dirty sheet lengthways in a narrow roll till it reaches the side of the patient, treating the clean sheet in the same way, that is, rolling it half-way across, leaving enough unrolled to replace the portion of the dirty sheet that has been folded. Place the clean roll by the side of the dirty one, and a very little shifting will take the patient over them, when the dirty sheet can be withdrawn and the clean one unrolled and spread in its place.

Under-sheets for a sick-bed should be small, only just large enough to tuck in at the sides, and should never be wound round the bolster. A very hard pillow should be used as a foundation when it is necessary to make a pile for the patient to sit up in bed, as in cases of bronchitis.

For a helpless patient a draw-sheet is often needed which may be made by folding a large sheet lengthways to about a yard wide. This should be laid across the middle of the bed over a mackintosh, with one end reaching only to the side of the bed, and the surplus at the other formed into a roll that can be unwound as the sheet is drawn from the other side. Be most careful to have this draw-sheet so firmly fixed with safety pins or by being tucked under the mattress that it will not ruck or crease, and so cause great discomfort, if not pain, to the patient.

Fresh smooth sheets and cool pillows afford great comfort to most invalids, and a good nurse will be on the watch for opportunities of replacing a pillow and changing or smoothing a sheet when these offices can be performed without inconveniencing or disturbing her patient.

Invalid's Food

"Patients," says a distinguished nurse, "are sometimes starved in the midst of plenty, from want of attention to the ways which alone make it possible for them to take food. A spoonful of beef-tea, or arrowroot and wine, or some other light nourishing diet, should be given constantly, for the patient's stomach will reject large supplies. In very weak patients there is often a nervous difficulty in swallowing, which is much increased if food is not ready and presented at the moment when it is wanted; the nurse should be able to discriminate, and know when this moment is approaching."

Never bring a large plateful to an invalid; let it be, if anything, rather less than more than you think he will take; a little can easily be added, but the sight of much food will sometimes prevent a patient taking any.

The diet suitable for patients will depend, in some degree, on their natural likes and dislikes (which the nurse should of course ascertain), and still more on the nature of the disease. Beef-tea is useful and relishing, but possesses little actual nourishment; when evaporated, it presents a teaspoonful of solid meat to a pint of water. Eggs are not equivalent to the

same weight of meat. Arrowroot is less nourishing than flour. Butter is the lightest and most digestive kind of fat. Cream, in some diseases, cannot be replaced. Observation is, however, the nurse's best guide, and the patient's appetite the rule. Half a pint of milk is equal to a quarter of a pound of meat. Tea and coffee are both too much excluded from the sick-room.

Food must not be kept in the sick-room, since it is deteriorated by the air there; the continual presence of food, besides, is highly objectionable to a patient, being likely to destroy what little appetite he has. In no cases should food removed from the sick-room be consumed by other members of the family. It should be thrown away at once or burnt.

A Nurse's Dress

This should be of some washable material that neither rustles nor crackles; her shoes should be soft ones that do not creak; her sleeves should be loose enough to roll back, and she should have a plentiful supply of large white aprons. A professional nurse would wear a neat white cap. Suffering people are apt to be impressed by trifles, such as a black dress having a gloomy look, while a bright one has a cheering effect, and every one prefers to see a pretty pink cotton gown, for example, in a sick-room, than a sombre, black-looking one. The print is not only pleasanter to the eye; it has the additional advantage of not being so liable to convey infection as a stuff gown.

Doctor's Orders

Doctor's orders are never disregarded by a nurse worthy of the name. Should she by watching the case think any other treatment or diet would be beneficial to the patient, she should not act upon her own opinion, but state it to the doctor. She should always report to him any change she observes in the patient, which she should be watchful to detect. Such hearty co-operation is of incalculable help to a medical man.

Visitors

The admission of too many people into the sick-room is a fruitful source of harm to the patient. Many friends, doubtless well-intentioned, come in and keep up an incessant conversation either among themselves or with the patient and so

do him much harm. While they are there, the patient is probably flushed and they tell him he is looking so much better; but, could they see him some time after they had left and when reaction has occurred, they would find reason to change their mind and realize the thoughtlessness of their visit. In point of fact the blame is less theirs than that of the nurse, who should deny access to the sick-room to all and sundry until the doctor has expressly sanctioned visitors.

Convalescence

In this stage the patient is often more difficult to manage than when seriously ill; he is more wayward and fanciful, more easily put out, and more easily impressed by his surroundings. The room should be kept as bright as possible; the patient should be tempted to eat what is best for him, and firmly refused whatever might be detrimental. Anything that can be done to while away the long hours of weakness should be tried, whether it is reading aloud, or by the nurse engaging herself with some occupation that it would be pleasant for the invalid to watch.

In some of the rooms of a suburban hospital looking-glasses are so fixed that patients in upper rooms have a view of the lovely garden, and can, without moving and without any glare, lie and watch the waving trees and flowers below. In cases of long illness, this might give great pleasure to sufferers incapable of being moved.

CHAPTER VI

The Rearing and Management of Infants and Children

The New-Born Child

AS soon as the child is born the stimulation of the cold air coming into contact with its skin, combined with the diminished supply of blood coming from the afterbirth through the contraction of the emptied womb, cause the child to make a deep inspiration which fills the previously collapsed lungs with air. The first few expiratory efforts are generally accompanied by loud cries by which the infant announces its arrival in this world and which serve at the same time to establish vigorous respiration. The circulation of the blood is instantaneously altered with the first respiration. Up to this happening the current passed directly from one side of the heart to the other through an opening between the two ventricles: now the current passes from one side of the heart to the lungs and thence to the other side of the heart, and the opening between the two ventricles, which is supplied with a valve, is automatically shut, due to the alteration of pressure consequent on the first respiration.

Asphyxia of the New-Born Infant

If, when the child is born, it does not breathe, smack its buttocks to see if this additional stimulus of the skin will produce the desired result. It very often does. If not, take a piece of clean linen and wrapping it round the little finger clear the mucus from the back of the throat, smack it again and dash a little cold water over its body. If this is not successful put it into a hot bath, as hot as can be borne by the elbow. If no respiration takes place, take the child out of the bath, dry it with a warm towel and perform artificial respira-

tion. Lay the baby on its back on the bed, take both arms by the wrists and pull them slowly sideways until the hands meet above the top of the head. Then slowly bring them down again to the side of the chest, compressing it laterally, and at the same time putting some pressure on the abdomen in an upward direction, so as to press the diaphragm upwards. Do this at the rate of 30 to the minute. The tendency is always to do it too rapidly. Continue this for at least a quarter of an hour, or longer still if any attempt at respiration has been made during this period.

Washing and Dressing

Provided there is nothing to hinder it, as soon as the child has been removed, in a flannel receiver, the process of washing and dressing may be at once begun. The various articles of clothing which are to be put on the child should have been hung upon a chair at the commencement of labour, in proximity to the fire.

The child is generally washed upon the nurse's knee, the basin with soap and water being placed upon the floor, but it is better, if it can be done, to use an oval wooden bath, having a place scooped out at one end to allow of the child's head being supported during the process.

The bath should be sufficiently filled with warm water to cover the body, by which means it will not be exposed to the influence of the atmosphere till ready to be dried.

The soap that is employed should be of the least irritating kind, and great care must be taken that none is allowed to enter the infant's eyes. Many of the inflammatory affections of the eyes occurring in infants may be traced to carelessness in this respect.

If there is much cheesy-looking substance on the body it may be removed with a little sweet-oil, and then well soaped with a soft flannel.

When the process of washing is over, the infant should be laid upon the nurse's knee, on a pillow covered with warm cloths, and dried by means of warm soft towels. The buttocks, and the parts between the legs should be well rubbed with vaseline or cold cream so as to prevent the secretions irritating the skin. The use of powder only tends to absorb the moisture and by filling up the pores renders the skin liable to inflammatory trouble. The baby's eyes should be most carefully

washed out with a little boracic acid lotion. Neglect of this precaution often results in inflammation, ulceration and subsequent blindness.

A piece of soft old linen should then be taken and a hole cut in the centre. Through this the umbilical cord should be drawn, and the lower part of the linen folded up against the other, so as to be brought in contact with the child's abdomen. The cord will thus lie between the two folds of linen, and is to be maintained in position by means of the flannel binder, which should now be applied. The binder is on no account to be too tight.

Next to the flannel binder is placed a shirt, which preferably should be made of wool, as it will afford greater protection against cold. Above this the petticoat is placed, and then the infant's frock or slip. A shawl or piece of flannel should also be provided to throw over the shoulders. The head is better left without any covering. A linen diaper is next applied, and the process of dressing is complete.

Carrying Infants

There is a considerable art in carrying an infant with comfort to itself and to the nursemaid. If it is carried always seated upright on her arm and pressed too closely against her chest, the stomach of the child is apt to get compressed, and the back fatigued. For her own comfort, a good nurse will frequently vary this position by changing the child from one arm to the other, and sometimes by laying it across both, raising the head a little. When teaching it to walk, and guiding it by the hand, she should change the hand from time to time, to avoid raising one shoulder higher than the other. This is the only way in which a child should be taught to walk; leading-strings and other foolish inventions, which force an infant to make efforts, with its shoulders and head forward, before it knows how to use its limbs, will only render it feeble, and retard its progress.

Nursing

It should be regarded as a part of every mother's duty to bring up her child at the breast, unless, of course, there are obstacles in the way which prevent her doing so. The only consideration that ought to weigh with a mother should be the welfare of her child; if it is her intention to nurse, the

allurements of pleasure should not be allowed to interfere with the discharge of her duty. If the breasts are large and the nipples depressed they must be drawn out by suction. The breast, before the infant is applied, should be sponged with boracic lotion and dried, and this should be again done when the child has finished sucking. The child's mouth should also be wiped out with a clean linen rag moistened with water or boracic lotion.

Those who ought not to nurse are those who have some general disease such as consumption, women who have septic complications, who have abscesses in the breast, who are insane, or who have lost a large quantity of blood during labour.

The diet of the nursing mother should be wholesome and nourishing, while at the same time easy of digestion. Stimulants are quite unnecessary, and will, in the majority of cases, do harm. Cheerful occupation and exercise in the open air have a beneficial effect upon the milk. Personal cleanliness should be attended to, and the clothing should be warm and permit of perfect freedom of movement.

The Milk

It has been already pointed out that if nothing in the mother's condition prevents her suckling her infant, it is her duty to do so ; but certain conditions must be complied with in order that it may be beneficial to the child and not hurtful to the mother.

Nature makes no provision for the nourishment of the child for the first 2 or 3 days after birth, and as a rule the infant does not demand it. If, however, the child is fretful, a teaspoonful or two of water sweetened with sugar may be given. By putting the child to the breast 3 or 4 times a day the contraction of the uterus is stimulated, and the child obtains a substance which acts as an aperient and prepares the stomach for digestion.

When the milk comes into the breasts the child should be fed every 4 hours during the day, say 6 a.m., 10 a.m., 2 p.m., 6 p.m., and 10 p.m. It is generally better to feed the baby from both breasts at each feed. This prevents the breasts getting too full at the end of an 8-hour interval, and it is more calculated to bring about a steady flow of milk. Stimulation of the nipple by the sucking of the infant is what induces the flow of milk into the breast, and with a vigorous child, therefore,

the draught of milk is likely to be greater. The child should be fed at regular hours and should be wakened from its sleep for its feed. It will generally be found that it goes off to sleep again. Babies are creatures of habit and the stomach is a good timekeeper, so that if, in the early weeks, regular habits are induced they will be retained. Every effort should be made to accustom the infant to the 8-hour interval during the night, as both mother and child will be benefited by this interval of rest.

At 7 months the child may have added to its dietary a rusk soaked in warm milk, twice a day.

Weaning

About the ninth or tenth month the mother should begin to wean her child. The artificial feeding begun on the appearance of the teeth should now be increased in frequency, while the breast should be at the same time gradually withdrawn.

Care of the Breasts

Should the breast become swollen after weaning, gentle saline medicines should be administered, such as a Seidlitz powder, or a little aperient salts, and the breasts be bathed with a lotion of eau-de-Cologne and water.

If it is found advisable that the mother should not suckle her infant, and the breasts become full and painful, relief may be obtained by drawing off the milk with a breast-pump, and checking the secretion by applying belladonna plasters to the breasts. The mother should also very much limit the amount of fluid nourishment she is taking. With these precautions the breasts will soon run dry.

The Stomach—Digestion

Next to respiration, digestion is the chief function in the economy of life, as, without the digestion and absorption of food, there would be nothing to supply the immense and constantly recurring waste of the system, caused by the activity of the vital processes, especially during infancy and growth.

In infancy (the period of which our present subject treats), the series of parts engaged in the process of digestion may be reduced simply to the stomach and intestines, the liver, and the pancreas with their secretions.

The stomach is a thick muscular bag, connected above with

the gullet, and, at its lower extremity, with the commencement of the small intestines. The function of the stomach is to secrete an acid liquid, called the *gastric juice*, which, with a due mixture of saliva, softens, dissolves, and gradually digests the food or contents of the stomach, reducing the whole to a soft pulpy mass, the *chyme*. This passes into the first part of the small intestines, where it comes in contact with the bile from the gall-bladder and the pancreatic juice from the pancreas, being converted into a white, creamy fluid called *chyle*, which is taken up by proper vessels called lacteals, and conveyed to the blood to enrich it and fit it for supplying the various organs of the body with nutriment.

The process of making cheese, or fresh curds and whey, is familiar to most persons ; but, as it is necessary to the elucidation of our subject, we will briefly repeat it. The internal membrane, or the lining coat of a calf's stomach, having been removed from the organ, is hung up, like a bladder, to dry ; when required, a piece is cut off, put in a jug, a little warm water poured upon it, and after a few hours it is fit for use ; the liquid so made being called *rennet*. A little of this rennet, poured into a basin of warm milk, at once coagulates the greater part, and separates a quantity of thin liquor called *whey*.

This is precisely the action which takes place in the infant's stomach, the gastric juice immediately converting the milk into a soft cheese. The cheesy substance, being a solid, at once undergoes the process of digestion, is converted into *chyle*, and goes to form new blood and so to build up the various tissues of the body. This is the simple process of a baby's digestion : milk converted into cheese, cheese into *chyle*, *chyle* into blood, and blood into flesh and bone.

THE MONTHLY NURSE

The doctor will, in most cases, be best able to recommend a suitable and trustworthy nurse. It is of the utmost importance to engage the monthly nurse in good time, as, if she is competent and clever, her services will be sought months beforehand, a good nurse having seldom much of her time disengaged. There are some qualifications which it is evident the nurse should possess : she should be scrupulously clean and tidy in her person ; honest, sober, and noiseless in her

movements; should possess a natural love for children, and have a strong nerve in case of emergencies. She should see that all is in readiness, so that there shall be no bustle and hurry at the time the confinement takes place. She should keep two pairs of sheets thoroughly aired, as well as nightdresses, flannels, etc., etc. All the things which will be required to dress the baby the first time should be laid in the basket in readiness, in the order in which they are to be put on; as well as scissors, thread, a few pieces of soft linen rag, and two or three flannel squares. If a *berceaunette* is to be used immediately, the nurse should ascertain that the mattresses, pillow, etc., are all well aired; and if not already completed before she arrives, she should assist in its preparation.

Cleanliness and Ventilation

A nurse should endeavour to keep the sick-room as cheerful as possible, and always see that it is clean and tidy. All utensils must be taken away and emptied as soon as used. Soiled baby's napkins must be rolled up and taken away, and put into a pan, when they should be washed out every morning and hung out to dry; they are then in a fit state to be sent to the laundress; on no account must they be left dirty, but dealt with every morning in this way. The bedroom should be kept of a regular temperature, well ventilated, free from draughts, and free also from unpleasant smells—every cause of offence being removed at once.

The Infant

The infant during the month must not be exposed to strong light, or much air; and in carrying it about the passages, stairs, etc., the nurse should always have its head flannel on, to protect the eyes and ears from the currents of air. A good nurse should understand the symptoms of ailments incident to this period, as, in all cases, prevention is better than cure. As young mothers with their first baby are very often much troubled at first with their breasts, the nurse should understand how to deal with retracted nipples, and the prevention of cracked nipples by carefully washing them and drying with a soft linen rag after the infant has fed, and then anointing them with a little glycerine and borax.

The importance of preventing sore or cracked nipples by cleanliness in this respect is emphasized by the fact that

abscess of the breast is almost always due to septic organisms entering the breast by way of these cracks, or less commonly along the milk ducts.

THE WET NURSE

It is seldom that the doctor thinks it necessary, in these days, to advise the employment of a wet nurse.

Should he do so, however, the choice of a suitable wet nurse must be left entirely to him. Disregard in this respect may bring about the direst consequences. He alone is capable of deciding whether a woman may or may not nurse another woman's child. He will not do it until he has examined both foster-mother and her child, for if the latter is not thriving and healthy on its own mother's milk, it is extremely improbable that a stranger's child will benefit by it.

BOTTLE-FEEDING

If the mother is unable to feed her child, bottle-feeding is usually resorted to. There are many excellent baby foods on the market, all claiming many staunch adherents. Cow's milk, however, is the food generally recommended, but in order to make it more closely resemble human breast milk, it must be diluted with water, sweetened with sugar, and cream added.

The milk should be boiled and given at a temperature of 96° Fahr., which is that of the human breast milk. The quantity given at a time will have to be increased with the growth of the child, but after the first few days are over it may be laid down, as a rule, that 2 to 4 oz. are sufficient at each meal for the first 2 to 3 weeks. Of course, when the teeth begin to appear, other articles of food require to be given as well.

A regular method of feeding should be practised from the first, and a sufficient interval must be allowed to elapse between one meal and another.

For the first month 2 parts of boiled milk to 3 parts of boiled water should be given, gradually increasing the proportion of milk till at the seventh month the child is taking pure milk, save for a dash of water, which should always be given.

From the beginning the child should be fed regularly at 4-hourly intervals during the day, and with an interval of 8 hours during the night, say at 6 a.m., 10 a.m., 2 p.m., 6 p.m.,

and 10 p.m. It is very essential that these rules be rigidly followed, as the baby is a creature of habit, and will quickly become accustomed to its feeding times.

A teaspoonful of cream should be added to each feed, also a lump of sugar, and a little orange or grape juice should be given daily.

In feeding infants at birth and during the first few weeks of their existence, it is necessary to know the size of the infant's stomach in order that the amount given at each meal is not greater than the infant can digest. At birth the stomach holds about 3 tablespoonfuls, and its capacity gradually increases as the child grows. At eight months the capacity is five times as great.

It is absolutely essential to the success of bottle-feeding that the bottle or bottles be kept *scrupulously clean*, as dirty bottles frequently give rise to "thrush." The best form of bottle to use is the boat-shaped one, with a rubber nipple fixed to the end or neck.

The bottle and teat must be scalded after each meal in hot water and soda, the teat turned inside out, and both rinsed in cold water. They then should be allowed to stand in cold water in which a little boracic acid has been dissolved.

No more food should be made than will serve for one time.

When the teeth begin to appear, which is usually about the sixth or seventh month, the diet requires alteration, but milk must still constitute the chief item of food. In addition, the child may have one of the patent foods specially prepared for children, infant's biscuits or patent condensed milk.

When the larger double teeth make their appearance, it is regarded as a sign that a further change in the diet is necessary. Milk should continue to form a large part of the child's food, but, in addition, some beef-tea, chicken-tea or mutton-broth may be given once a day in the forenoon. As a change, a little meat gravy with a mealy potato mashed up in it may be given. An egg lightly boiled, or one that has been placed for two minutes in boiling water, forms a very useful article of diet, and one that is very nourishing. A little piece of some ripe fruit will not prove hurtful to most children, and so may be given sparingly, care being taken to remove all stones. Nuts and other husk fruits, which are difficult of digestion, should be avoided.

Children should not be allowed to eat between meals.

THE NURSERY

CHAPTER VII

The Nursery

THE nursery should be a bright, cheerful room, sunny and airy, and if at the top of the house, not exposed to the extremes of heat and cold. Children suffer sooner than adults if the hygienic arrangements are not perfect, and as in some houses it happens that, with perhaps the exception of a short half-hour now and then, they spend all their time at home in the one room, it ought to be kept at an even temperature, and made as pleasant as possible. The walls should be covered with sanitary paper of some cheerful pattern, and varnished. Around the walls, at a height easily reached by the children, may run a broad dado representing animals, flowers or toys, all depicted in bright and cheerful colours; or this dado may be replaced by a series of blackboards, let into the walls, and on which the child may draw to his heart's desire. The furniture should be of the simplest, with rounded corners, to prevent serious bumps, enamelled, and easily washed. The windows should be air-tight and free from draughts. Ventilators should be inserted near the ceiling (the importance of fresh air to the life and well-being of children cannot be over-estimated). The fireplace must be provided with a substantial and efficient guard. The greatest cleanliness is needed in a nursery, for the children cannot thrive if they are not well kept, and a room so constantly used as the day nursery by little folks needs more cleaning than ordinary sitting-rooms. The floors of both the day nursery and the night nursery should not be covered with carpet, but with cork linoleum, and 1 or 2 washable rugs. It is considered much better from a health point of view, that each child should have its own little bed or crib, with sufficient, but not too much, clothing.

Toys

In spite of the fact that children have far more beautiful toys with every advancing year, we venture to assert that it is just as difficult to amuse them now as ever it was. A magnificently-dressed wax doll often seems to afford no more delight than a shabbily-dressed old one, and the most complete and perfect of expensive toys, be it what it may, lasts no longer than a cheap one in destructive little hands. The truth is, modern children are often surfeited with playthings. They are allowed to use them all whenever they like, and so they mix them up, and soon lose their appreciation. The best plan is to let children have but one plaything at a time, and directly they weary of it to make them put it away.

Games

Games for children should be provided out of doors as much as possible whenever the weather will allow. Running and playing come more natural to children than walking, and in these days of high-pressure education it is most essential that when released from the schoolroom they should find healthy, active exercise, and games which try the muscles instead of the brains.

The Mother

A mother's responsibilities are the greatest that a woman can have, for with her rests not only the care for the daily needs of food, clothing and the like of her children, but, what is even more important, their moral training. No matter what good nurses and attendants she may be able to engage for her little ones, what pleasures, changes of air, model nurseries, toys and books she may afford for their benefit, she should still devote *some* part of her time to them at any rate ; should be with them often, should know their individual childish tastes and faults, and strive by her influence, precepts and example, to make them what she hopes they may be in the future.

A mother's influence with children is greater than any other ; it is easier for her than anyone else to train them, and the little ones will rather obey her commands than those of nurse or governess, no matter how kind these may be. Some society women deny that they have time to give to their little ones. Their visits to schoolroom or nursery are few and far between. They have everything beautifully appointed in the children's

quarters, and first-rate nurses and governesses, and they cannot take time from gaiety and pleasure to devote to what they think can be obtained from hired service. This is a mistake, for no nurse, however excellent, can supply a mother's place.

The children's hour should be an institution in every household. To the young folks it is (or should be) the happiest time in the day, while to the attendants it is a rest and a great relief. Let the children bring their little troubles and sorrows to mother, to be set right and comforted; let praise be given for little tasks well done, disputes be settled, help and suggestions given for either work or play, and let a game or tale (the latter told, not read) conclude the happy hour. Should this, as it often happens, be just the time generally given to afternoon tea, let the little ones bring this to their mother and wait upon her as children love to do. She will not find an hour wasted in this way, even if it be one hard to spare.

Bad Habits

Most children have some bad habit, of which they must be broken; but this is never accomplished by harshness without developing worse evils. Kindness, perseverance, and patience in the nurse are here of the utmost importance.

When finger-sucking is one of these habits, the fingers should be rubbed with bitter aloes, or some equally disagreeable substance. Others have dirty habits, which are only to be changed by patience, perseverance and, above all, by regularity in the nurse. She should never be permitted to inflict punishment on these occasions, or, indeed, on any occasion. But, if punishment is prohibited, it is still more necessary that all kinds of indulgence and flattery be equally forbidden. To yield to all the whims of a child—to pick up its toys when thrown away in mere naughtiness, is extremely foolish. A child should never be led to think others inferior to it, to beat a dog or even the stone against which it has fallen, as some children are taught to do. Neither should the nurse affect or show alarm at any of the little accidents which must inevitably happen; if a child falls, treat the incident as a trifle, otherwise a spirit of cowardice and timidity is encouraged. But she must take care that such accidents are not of frequent occurrence, or the result of neglect.

The nurse should keep the child as clean as possible, training

it, in particular, in cleanly habits, so that it feels uncomfortable when not clean.

Nursemaids would do well to report to the parents the defects they observe in the dispositions of very young children. If checked in time, bad habits may be eradicated ; but this should not extend to anything but serious defects ; otherwise, children will construe the act into " spying " and " informing."

Diet

Children's food should be nourishing rather than stimulating. They do not need much meat, or require several courses to make a meal. The meals should be served regularly at the same hour daily, and irregular eating of sweets, cake, biscuits, fruit, etc., between meals should not be permitted. Children, like ourselves, need change of diet. A good dinner from a joint one day may be followed the next by one of macaroni boiled in milk.

When the children are young, soup or fish makes a pleasant change ; while puddings should be not only frequent, but more varied in flavour than those usually given to children. We are, of course, now only speaking generally, but all children cannot eat the same things, and the mother who values her children's health must study, without pampering, their individual tastes. Plenty of milk should be given to young children, for it is their best and most natural food.

Baths

Baths for children should be given according to age and constitution. Some require warm baths and suffer from the effect of cold water, while with other children the cold agrees perfectly. A tepid bath is the one most generally suitable. Young children should have their bath in the morning, and if they are under 2 years may take it after their first meal. A child should never be given a hot bath in a very cold room, and thorough drying after bathing is of great importance.

Clothing

Children's clothing should be a matter of great care and thought with the mother. We do not mean by this the mere consideration of prettiness and effect, but whether their clothing is just what it should be for the season and the health of each individual child.

People are apt to think that what is good for one *must* be good for another; whereas, although all children feel the effects of heat and cold more than we do (although they may not always show it), they are as different in temperament as ourselves, and clothing that is amply sufficient for one child is quite inadequate to the wants of another. The main requirements of children's clothing are lightness, freedom and warmth. Children should never be encumbered with their clothes, nor, on the other hand, should they ever be allowed to feel cold. In winter, flannel or merino may be worn next the skin by all children, and in summer by many, while night-dresses of the same materials are fit for either season. The best kind of night garments for young children who are apt to throw off their bed-clothing are pyjamas. Light woollen materials are the best for the ordinary wear of young children. An overall of some washing material will be found most serviceable for wearing during play hours.

Children's Complaints

Where the nurse has the entire charge of the nursery, and the mother is too much occupied to do more than pay a daily visit, it is desirable that the nurse should be an observant woman, possessing some acquaintance with the diseases incident to childhood, and with the simple remedies that may be useful before a medical attendant can be procured, or when such attendance is considered unnecessary.

All these little ailments are preceded by symptoms so minute as to be only perceptible to close observation, such as twitching of the brows, restless sleep, and grinding of the teeth; in some inflammatory diseases the child even abstains from crying from fear of the increased pain produced by the movement. Dentition, or cutting of the teeth, is attended with many of these symptoms. Measles, scarlatina, croup, whooping-cough, and other childish complaints, all of which are preceded by well-known symptoms, may be alleviated and rendered less virulent by simple remedies instantaneously applied.

Note.—For specific ~~complaints~~ ~~noted~~ see MEDICAL A. B. C., Chapter IV.

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